

Economic Impacts of the Manufacturer's Sales Tax Exemption

House Finance Committee
Office of Program Research
House of Representatives

Senate Ways and Means Committee
Senate Committee Services
Washington State Senate
Olympia, Washington

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 - Source: Current Employment Statistics, Bureau of Labor Statistics.
 - The data is available on the internet at the Bureau of Labor Statistic's web site:
<http://stats.bls.gov/datahome.htm>

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 - Source: Current Employment Statistics, Bureau of Labor Statistics.
 - The data is available on the internet at the Bureau of Labor Statistic's web site:
<http://stats.bls.gov/datahome.htm>

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 - Source: ES 202 program data (covered employment) from Washington Employment Security Department and Oregon Employment Department
 - Washington data is available at Employment Security Department's web site:
<http://www.wa.gov/esd/lmea/>
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<http://www.emp.state.or.us/>

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- Source: Current Employment Statistics, Bureau of Labor Statistics.
- The data is available on the internet at the Bureau of Labor Statistic's web site:
<http://stats.bls.gov/datahome.htm>
- Tables:
 - Manufacturing Employment - Covered Employment by Industry
 - Percent Share of Manufacturing Employment - Covered Employment by Industry
 - Manufacturing Employment - Covered Employment by Industry and Region
 - Percent Share of Manufacturing Employment - Covered Employment by Industry and Region
- Source: ES 202 program data from Washington Employment Security Department.
- Washington data is available at Employment Security Department's web site:
<http://www.wa.gov/esd/lmea/>

- **Appendix 5** **Page 117**
- Washington manufacturing employment by region and by industry within region.
- Tables:
 - Manufacturing Employment - Covered Employment by Region
 - Percent Share of Manufacturing Employment - Covered Employment by Region
 - Manufacturing Employment - Covered Employment by Region (Aircraft and Parts (SIC 372) Removed
 - Percent Share of Manufacturing Employment - Covered Employment by Region Employment by Region (Aircraft and Parts (SIC 372) Removed
 - Manufacturing Employment - Covered Employment by Region and Industry
 - Percent Share of Manufacturing Employment - Covered Employment by Region and Industry
- Source: ES 202 program data from Washington Employment Security Department.
- Washington data is available at Employment Security Department's web site:
<http://www.wa.gov/esd/lmea/>

1994 Tax Study Legislation

- 1994 legislation established a study to:
 - Analyze how Washington's tax structure affects manufacturers
 - Consider alternative methods of taxing manufacturers
 - Identify effects of tax incentives for manufacturers
 - Study structure:
 - Dept of Revenue study
 - Advisory committee of legislators and representative of large and small manufacturing firms.

1994 Manufacturing Tax Study

- 1994 Study findings:
 - Manufacturing provides 17.9% of Washington jobs and 25.6% of wages
 - Washington's share of manufacturing jobs increased from 1.5% to 1.9% of U.S. during the past decade
 - Relative tax burdens are significant in location decisions when other business climate conditions are equal
 - When compared to 11 competitive states, Washington tax burdens on manufacturers ranked:
 - 2nd highest for established firms,
 - 3rd highest for independent firms, and
 - 7th highest for new small firms

1994 Manufacturing Tax Study

- 1994 Advisory Committee Recommendations:
 - Exempt from sales and use tax
 - New and replacement manufacturing machinery and equipment
 - Materials and labor associated with repair of manufacturing equipment
 - Consumable items utilized in manufacturing processes
 - Repeal new manufacturer deferral program
 - Convert sales tax deferral for high-tech firms to exemption and eliminate requirement that existing research and development (R&D) facilities expand by 25%.
 - Expand definition of R&D beyond activities associated with new or advanced technology
- DOR Director recommendations
 - Same as above except did not recommend exemption for repair of equipment or for consumables or expansion of definition of R&D.

1995 and 1996 Manufacturing Tax Exemption Legislation

- 1995 Manufacturing Tax Exemption Legislation (2ESSB 5201)
 - Exempted sales and use tax on manufacturing machinery and equipment including cost of installation starting July 1, 1995
 - Repealed sales tax deferral program for manufacturers new to Washington
 - Converted sales and use tax deferrals to exemptions for construction of research and development and pilot scale manufacturing
 - Eliminated 25% expansion requirement for existing R&D facilities
 - Eliminated or eased investment requirements for distressed area sales and use tax exemption/deferral program
- 1996 Legislation
 - Manufacturer's sales and use tax exemption expanded to include machinery and equipment used by a manufacturer for research and development purposes (HB 2484)
 - Extended manufacturer's machinery and equipment sales and use tax exemption to repairs and replacement parts (SSB 6656)
 - These items were part of the 1994 Study recommendations.

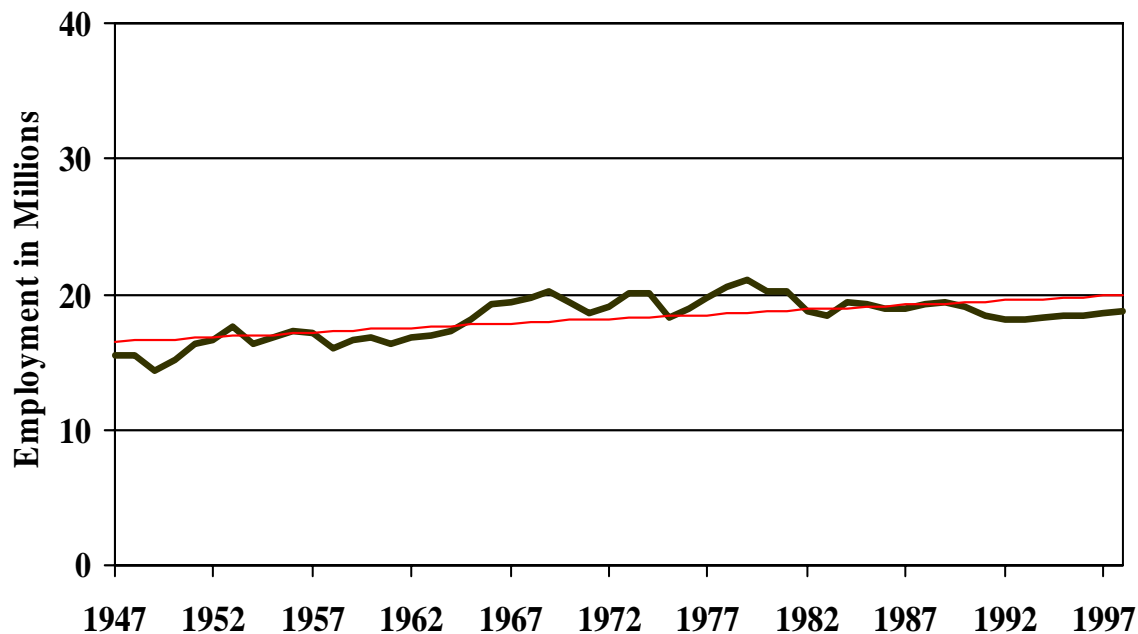
1999 Study Tasks

- 1995 Legislation requires a report on the economic impacts of the manufacturing tax exemption by the House and Senate Legislative Fiscal Committees by December 1, 1999.
- Study tasks as stated in 1995 Legislation:
 - Analyze employment and other relevant economic data from before and after the enactment of the manufacturer's tax exemption
 - Measure the effect on the creation or retention of family wage jobs and diversification of the state's economy
 - Analytic techniques may include:
 - Comparisons with other states
 - Comparison across Washington counties based on usage of the tax exemption
 - Comparisons across similar firms based on their use of the tax exemption

U.S. Manufacturing Employment

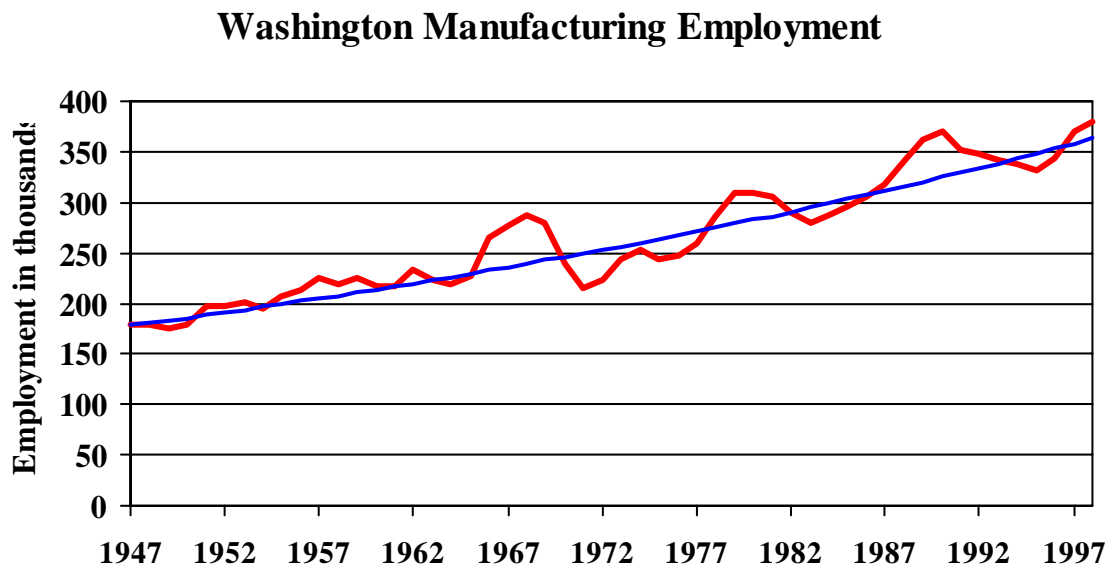
- Since 1947 U.S. manufacturing employment has remained relatively constant (between 15 and 20 million) while total nonfarm employment has increased nearly three fold.
- Since 1947 improvements in manufacturing productivity have increased output by 6.5 times.

U.S. Manufacturing Employment



Washington Manufacturing Employment

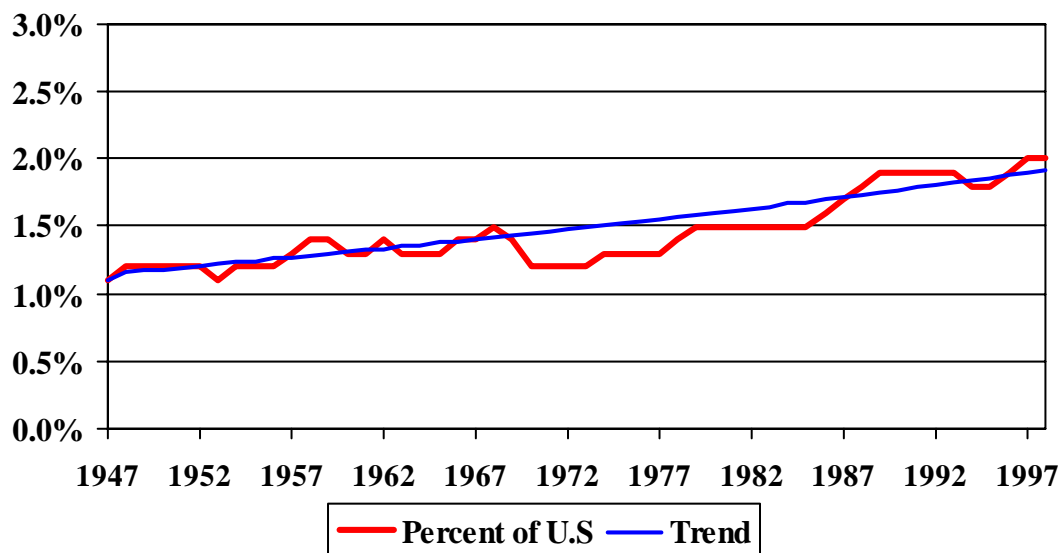
- Since 1947, manufacturing employment in Washington has grown steadily (about 1.5% per year)
- Washington manufacturing employment has been volatile. The average deviation from the trend line is 15,000 jobs.



Washington Manufacturing Employment

- Since 1947, Washington's share of national manufacturing employment increased from 1.1% to 2.0%
- On average Washington's share of manufacturing employment deviates from the trend line about 0.1% in each year.

**Washington Manufacturing Employment as a Percent of
U.S. Manufacturing Employment**



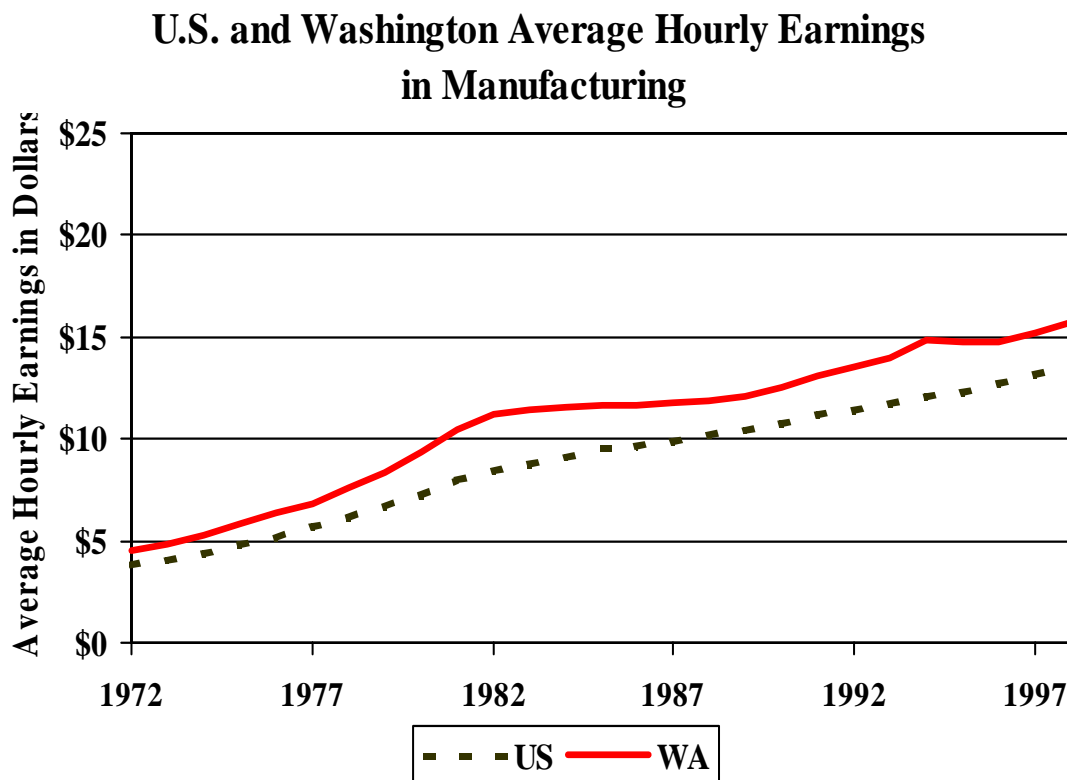
Distribution of Washington Manufacturing Employment by Industry

- Washington's manufacturing employment is dominated by aircraft production
- Food & Kindred Products and Lumber & Wood Products are also important manufacturing sectors.

	Industry Code	Employment (000)	Share FY99
Aircraft and Parts	372	107.5	29%
Food & Kindred Products	20	39.8	11%
Lumber and Wood Products	24	34.4	9%
Machinery , excluding Electrical	35	25.8	7%
Printing and Publishing	27	24.4	7%
Electronic &Other Elect. Equip.	36	18.6	5%
Transportation, excluding Aircraft	37-372	16.0	4%
Paper and Allied Products	26	15.9	4%
Fabricated Metal Products	34	15.2	4%
Instruments & Related Products	38	14.7	4%
Primary Metal Industries	33	10.8	3%
Stone, Clay, and Glass Products	32	9.7	3%
Misc. Manufacturing Industries	39	9.2	2%
Chemical and Allied Products	28	6.0	2%
Furniture and Fixtures	25	4.6	1%
Other Manufacturing		<u>21.3</u>	<u>6%</u>
Total Manufacturing		373.8	100%

Washington Average Hourly Earnings in Manufacturing

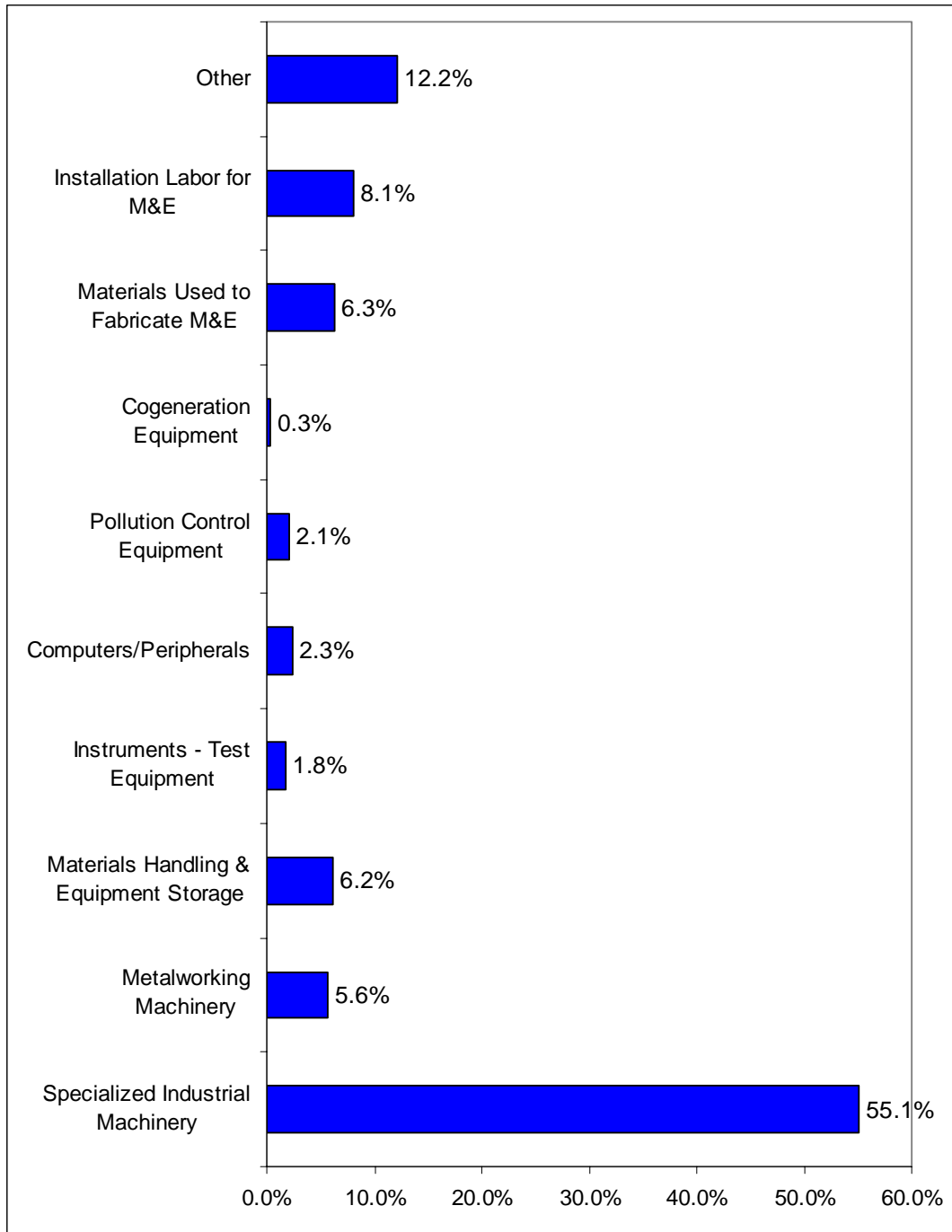
- Washington manufacturing average hourly earnings have consistently exceeded the national average hourly earnings.



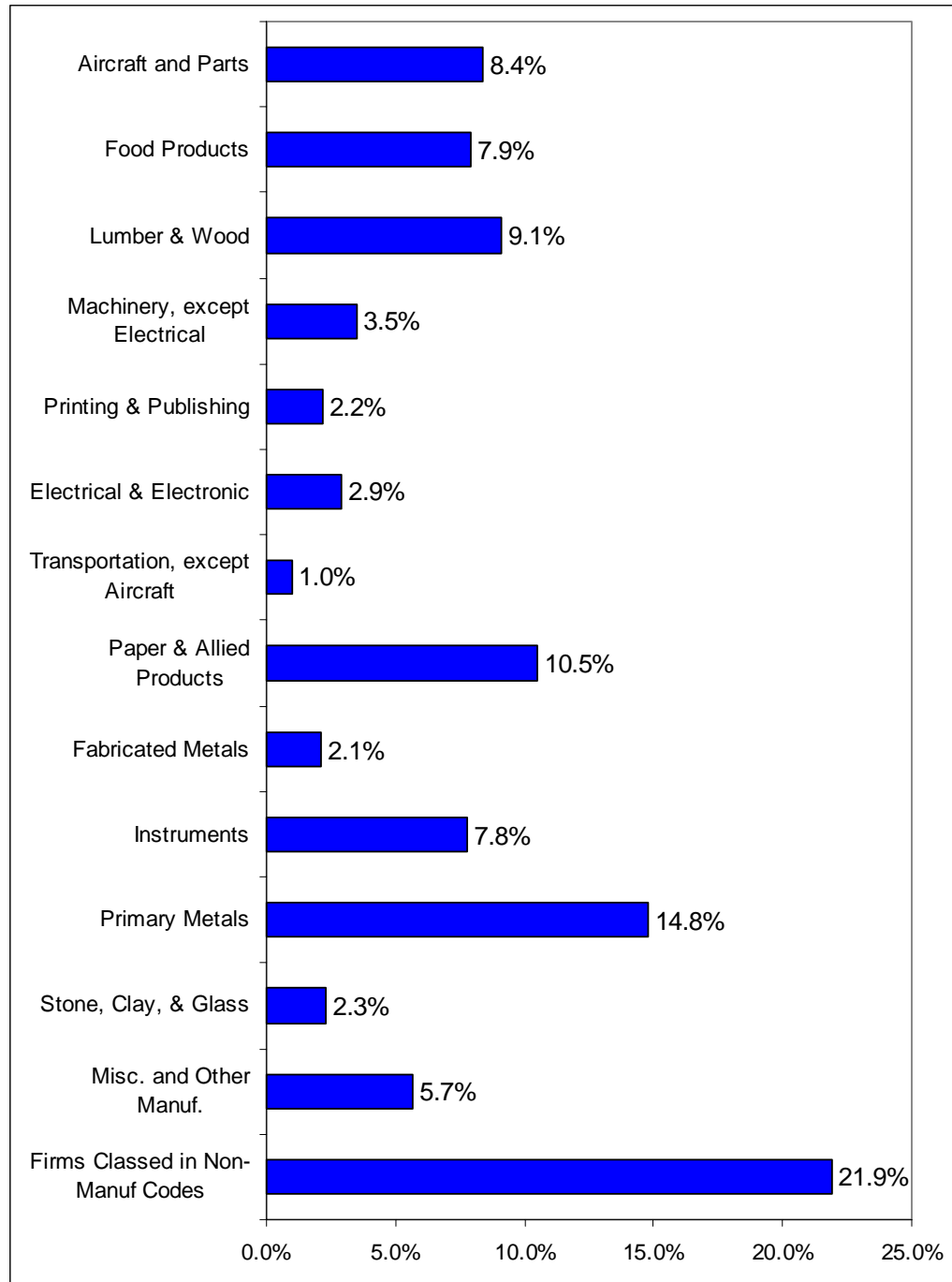
Tax Usage Statistics

- The manufacturing exemption legislation required taxpayers to file forms with the Department of Revenue when they claimed the exemption. The following statistics are based on the information on the exemption forms for the period July 1995 through 1997.
- Over 11,000 businesses claimed exemptions.
- About \$5.2 billion in sales and use tax exemptions were claimed for manufacturing equipment.
- Tax revenue on this amount would have been:
 - State \$338 million
 - Local \$78 million
- Estimates made when the enacting legislation was under consideration were:
 - State \$250 million
 - Local \$58 million

Type of Machinery Purchased using the Manufacturing Exemption

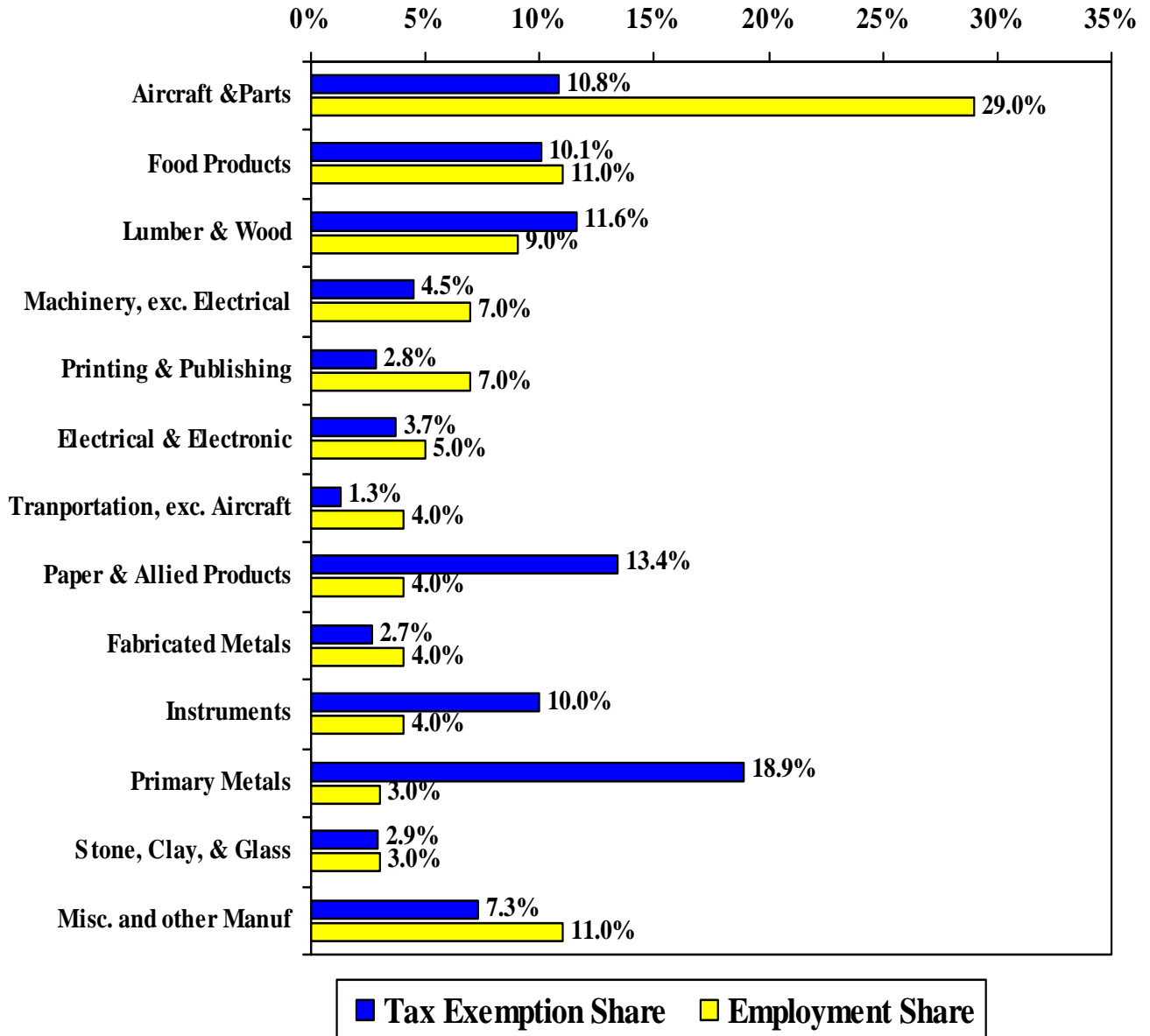


Industries Using the Manufacturing Tax Exemption



Tax Usage Statistics

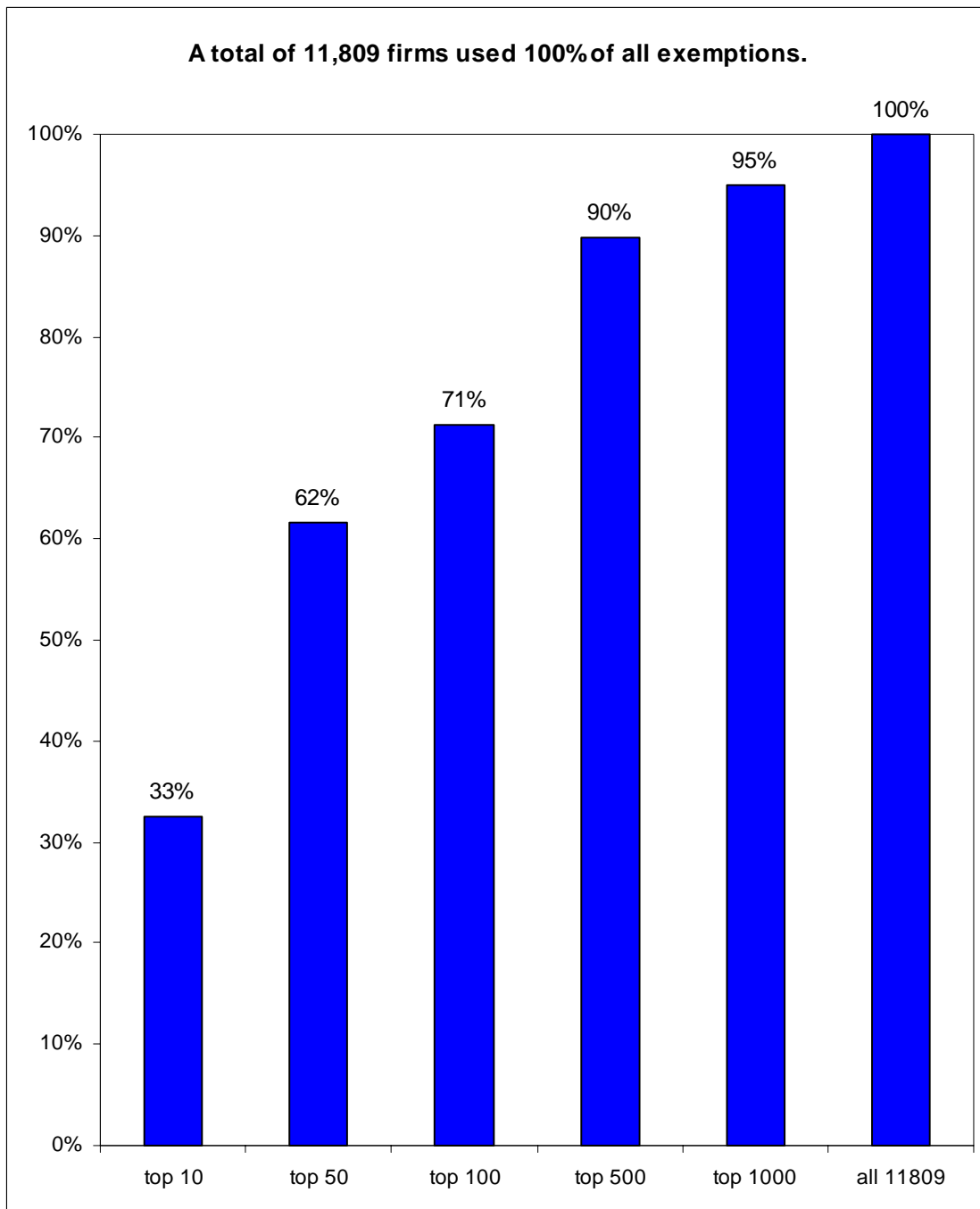
Comparing the Share of Exempt Equipment Purchases to the Share of Washington Manufacturing Jobs *



* This chart compares the share of sales tax exemptions taken by firms that are classified in manufacturing codes. Firms that are not classified in manufacturing codes are not included in this chart.

Tax Usage Statistics

The Top Ten Firms Used 33% of All Exemptions
The Top Fifty Firms Used 62% of All Exemptions



Tax Usage Statistics

Amount of Exemption Claimed by Manufacturers' County Location

County	Dollar Amount Claimed for this County	As a Percentage of All M&E Exemptions
King	1,231,077,963	24.6%
Pierce	700,135,994	14.0%
Clark	670,666,453	13.4%
Cowlitz	360,832,618	7.2%
Snohomish	341,352,642	6.8%
Whatcom	295,841,983	5.9%
Spokane	250,868,515	5.0%
Grant	184,502,563	3.7%
Skagit	133,037,963	2.7%
Thurston	105,281,705	2.1%
Yakima	102,754,864	2.1%
Klickitat	69,140,852	1.4%
Benton	66,919,993	1.3%
Walla Walla	66,125,386	1.3%
Grays Harbor	65,329,464	1.3%
Jefferson	52,088,306	1.0%
Chelan	50,376,629	1.0%
Pend Oreille	34,426,409	0.7%
Mason	32,663,553	0.7%
Lewis	31,098,383	0.6%
Stevens	26,787,272	0.5%
Clallam	26,744,222	0.5%
Franklin	16,329,272	0.3%
Columbia	15,729,855	0.3%
Pacific	13,489,418	0.3%
Whitman	10,695,118	0.2%
Kittitas	8,975,839	0.2%
Island	8,205,314	0.2%
Adams	8,080,308	0.2%
Kitsap	6,593,704	0.1%
Douglas	4,896,605	0.1%
Okanogan	4,212,294	0.1%
Wahkiakum	3,278,059	0.1%
Skamania	1,005,185	0.0%
Asotin	606,175	0.0%
San Juan	317,262	0.0%
Lincoln	56,354	0.0%
Garfield	26,585	0.0%
	\$ 5,000,551,079	100.0%

Data for Ferry County are confidential (less than 3 businesses used M&E exemptions in Ferry Co.)

Does not include data for \$225.3 million in exemptions claimed for which a location was not recorded or was withheld for confidentiality reasons.

*Manufacturers' locations do not indicate where the exempt sales tax transactions occurred.

Tax Usage Statistics

Amount of Manufacturing Exemption Claimed per capita by County

County	Dollar Amount Claimed	Population (1997 Data)	Amount Claimed on a Per Capita Basis
Cowlitz	360,832,618	92,000	\$3,922
Columbia	15,729,855	4,200	\$3,745
Klickitat	69,140,852	19,000	\$3,639
Pend Oreille	34,426,409	11,200	\$3,074
Grant	184,502,563	68,300	\$2,701
Clark	670,666,453	316,800	\$2,117
Jefferson	52,088,306	26,300	\$1,981
Whatcom	295,841,983	156,200	\$1,894
Skagit	133,037,963	96,900	\$1,373
Walla Walla	66,125,386	54,000	\$1,225
Pierce	700,135,994	674,300	\$1,038
Grays Harbor	65,329,464	68,300	\$957
Wahkiakum	3,278,059	3,900	\$841
Chelan	50,376,629	62,200	\$810
King	1,231,077,963	1,646,200	\$748
Stevens	26,787,272	37,400	\$716
Mason	32,663,553	47,900	\$682
Pacific	13,489,418	21,300	\$633
Snohomish	341,352,642	551,200	\$619
Spokane	250,868,515	409,900	\$612
Thurston	105,281,705	197,600	\$533
Adams	8,080,308	15,800	\$511
Benton	66,919,993	134,100	\$499
Yakima	102,754,864	208,700	\$492
Lewis	31,098,383	68,300	\$455
Clallam	26,744,222	66,400	\$403
Franklin	16,329,272	43,900	\$372
Kittitas	8,975,839	31,500	\$285
Whitman	10,695,118	41,200	\$260
Douglas	4,896,605	30,800	\$159
Island	8,205,314	71,600	\$115
Okanogan	4,212,294	38,400	\$110
Skamania	1,005,185	9,900	\$102
Asotin	606,175	19,700	\$31
Kitsap	6,593,704	229,400	\$29
San Juan	317,262	12,500	\$25
Garfield	26,585	2,400	\$11
Lincoln	56,354	9,800	\$6
	<u>\$5,000,551,079</u>	<u>5,599,500</u>	<u>\$893</u>

Data for Ferry County are confidential (less than 3 businesses used M&E exemptions in Ferry Co.)

Does not include data for \$225.3 million in exemptions for which a location was not recorded or was withheld for confidentiality purposes.

*Manufacturers' locations do not indicate where the exempt sales tax transactions occurred.

Tax Usage Statistics

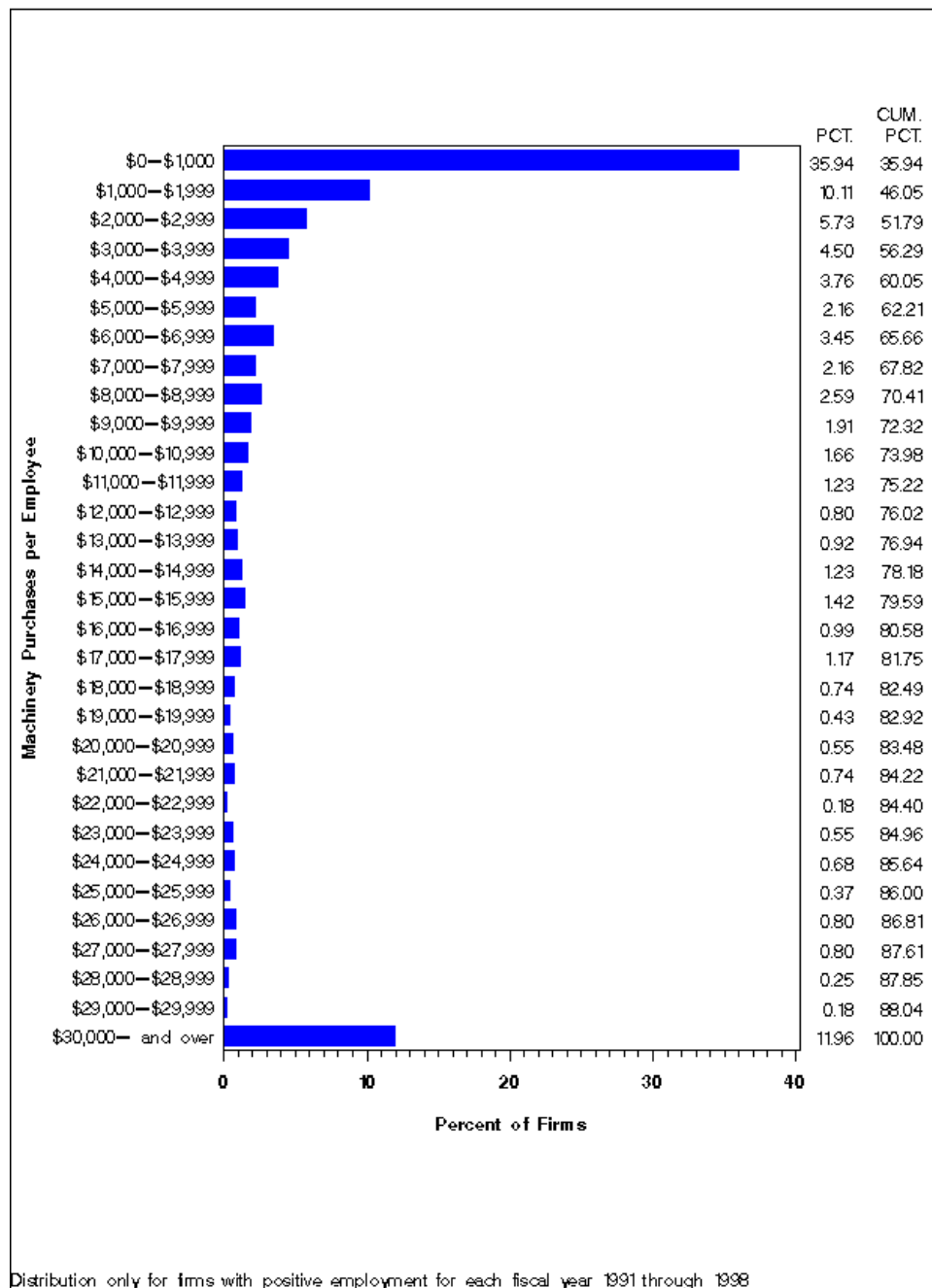
Amount of Exemption Claimed per Manufacturing Job by County

County	Dollar Amount Claimed	Manufacturing Jobs in 1997	Exemption Claimed per Manufacturing Job
Pend Oreille	34,426,409	378	\$91,075
Jefferson	52,088,306	861	\$60,497
Klickitat	69,140,852	1,327	\$52,103
Grant	184,502,563	4,531	\$40,720
Cowlitz	360,832,618	9,244	\$39,034
Clark	670,666,453	20,105	\$33,358
Whatcom	295,841,983	9,244	\$32,004
Whitman	10,695,118	367	\$29,142
Pierce	700,135,994	24,971	\$28,038
Skagit	133,037,963	4,859	\$27,380
Thurston	105,281,705	4,250	\$24,772
Douglas	4,896,605	210	\$23,317
Chelan	50,376,629	2,551	\$19,748
Mason	32,663,553	2,008	\$16,267
Walla Walla	66,125,386	4,132	\$16,003
Benton	66,919,993	4,197	\$15,945
Grays Harbor	65,329,464	4,567	\$14,305
Wahkiakum	3,278,059	232	\$14,130
Clallam	26,744,222	2,034	\$13,149
Island	8,205,314	629	\$13,045
Stevens	26,787,272	2,073	\$12,922
Pacific	13,489,418	1,104	\$12,219
Kittitas	8,975,839	790	\$11,362
Spokane	250,868,515	22,305	\$11,247
Franklin	16,329,272	1,593	\$10,251
Yakima	102,754,864	10,888	\$9,437
King	1,231,077,963	153,470	\$8,022
Adams	8,080,308	1,120	\$7,215
Lewis	31,098,383	4,378	\$7,103
Snohomish	341,352,642	62,028	\$5,503
Okanogan	4,212,294	1,225	\$3,439
Skamania	1,005,185	297	\$3,384
Kitsap	6,593,704	2,003	\$3,292
Asotin	606,175	260	\$2,331
San Juan	317,262	158	\$2,008
Lincoln	<u>56,354</u>	<u>82</u>	<u>\$687</u>
	\$4,984,794,639	364,471	\$13,677

Table shows total amount of exempt machinery & equipment purchases during the period July 1995 - December 1997 divided by average number of manuf employment jobs in the county in 1997. Total does not include \$241.1 million for which a location was not recorded or was withheld for confidentiality purposes (employment or manuf data withheld for Garfield, Columbia, & Ferry Co.)

Tax Usage Statistics

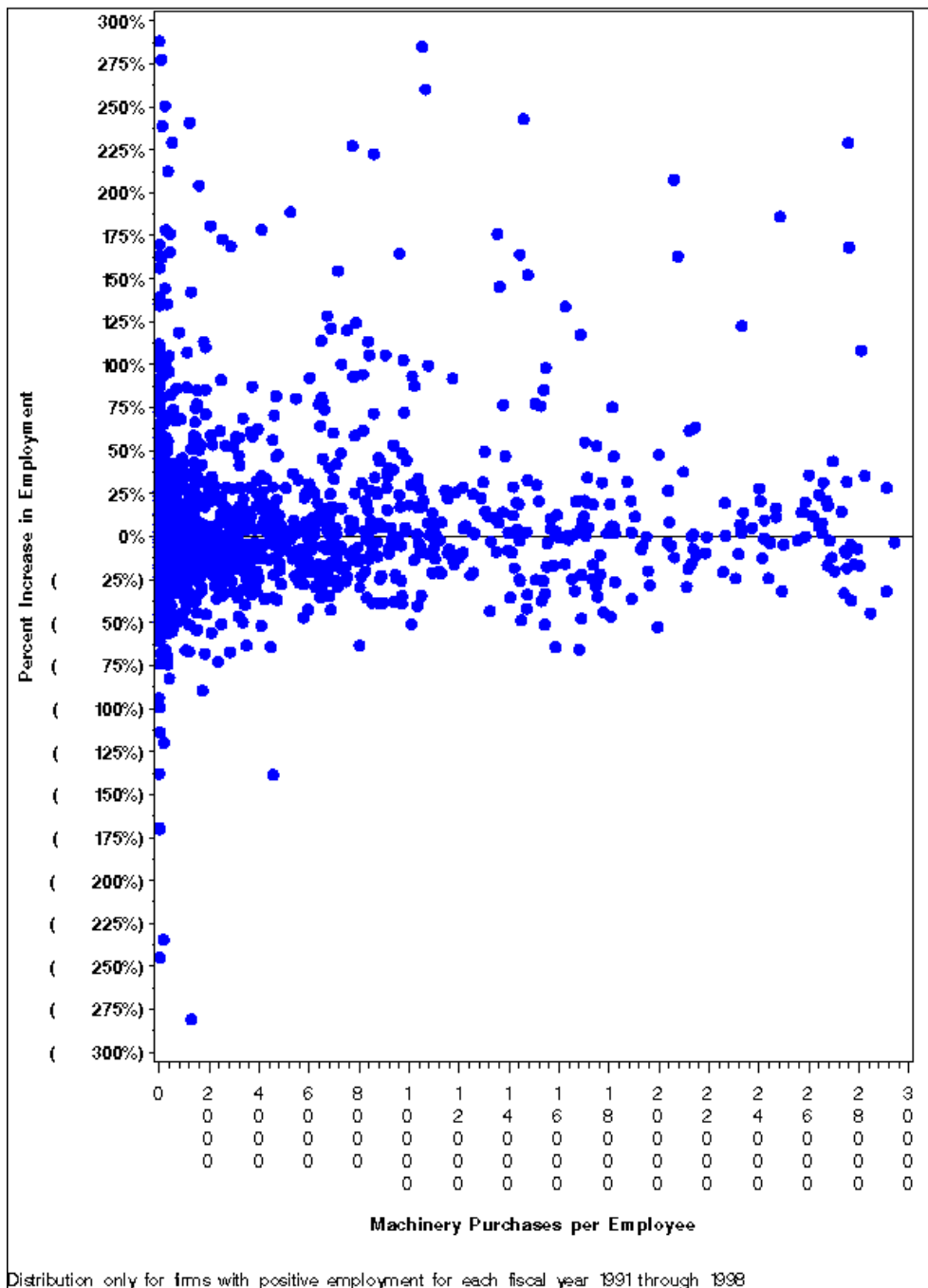
Percent Distribution of Manufacturing Firms by Equipment Purchases per Employee



Manufacturing Equipment Purchases per Employee Compared to Growth In Employment

- The chart on the following page shows the relationship between the use of the manufacturing exemption and growth in employment.
- Each dot on the chart represents a business firm.
- The manufacturing equipment purchases per employee is calculated by dividing the total amount of the exemption taken between July 1995 and December 1997 by the average employment for the 1991 to 1995 period.
- The growth in employment is average employment for fiscal years 1996, 1997, and 1998 divided by the average employment expected for fiscal years 1996, 1997, and 1998 assuming the pattern of employment for fiscal years 1991 through 1995 continue.
- The data for the chart includes only the manufacturing firms for which a successful match was made between Department of Revenue tax exemption data and Employment Security employment data. Also, only firms with positive employment for the 1991 through 1998 period were included. New business firms starting up after 1991 and business firms going out of business after 1991 are not included.

Manufacturing Equipment Purchases per Employee Compared to Growth In Employment



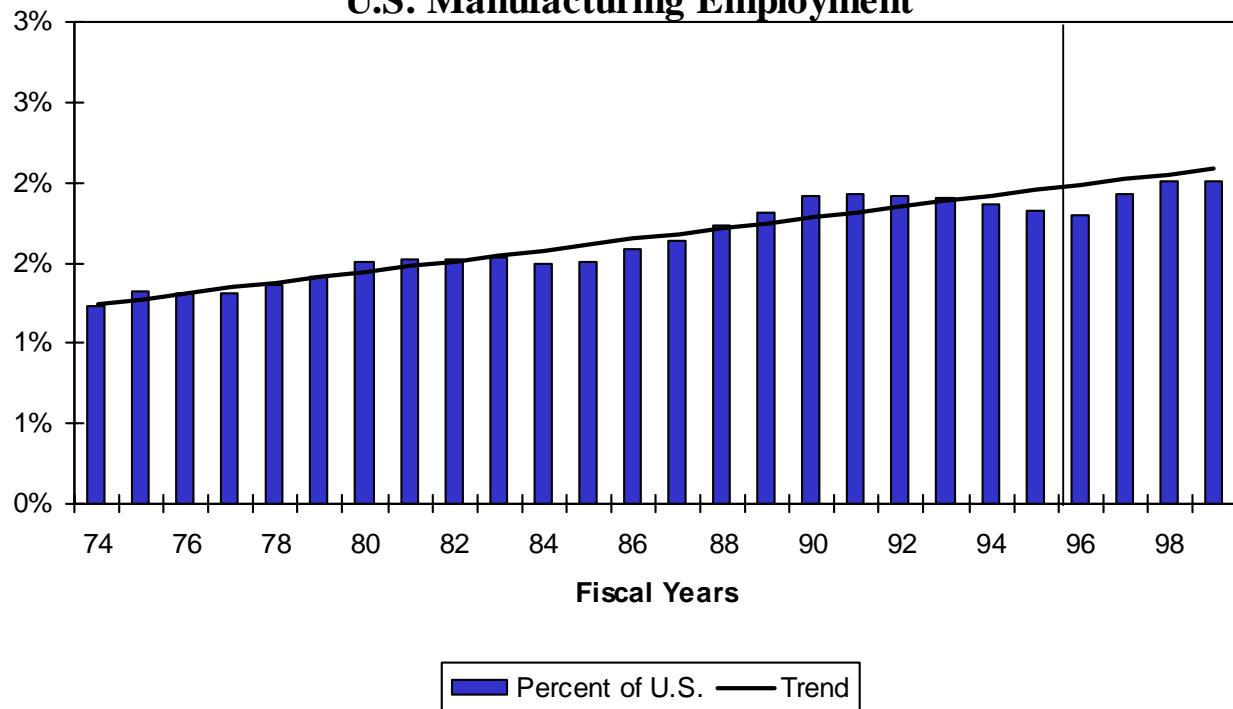
Employment Impacts

- Washington Manufacturing Employment compared to the U.S.
- Washington Manufacturing Employment compared to Selected States
- Clark County Manufacturing Employment compared to Portland Metropolitan Area

Washington Manufacturing Employment compared to the U.S.

- Sales tax exemption for manufacturing equipment started in fiscal year 1996.
- The trend in Washington manufacturing employment does not appear changed.
- Why?
 - WA manufacturing employment is volatile.
 - The positive effect of the exemption will be stronger over the long term.
 - The effect may not be strong enough to separate it from the normal variation in manufacturing employment.

Washington Manufacturing Employment as a Percent of U.S. Manufacturing Employment



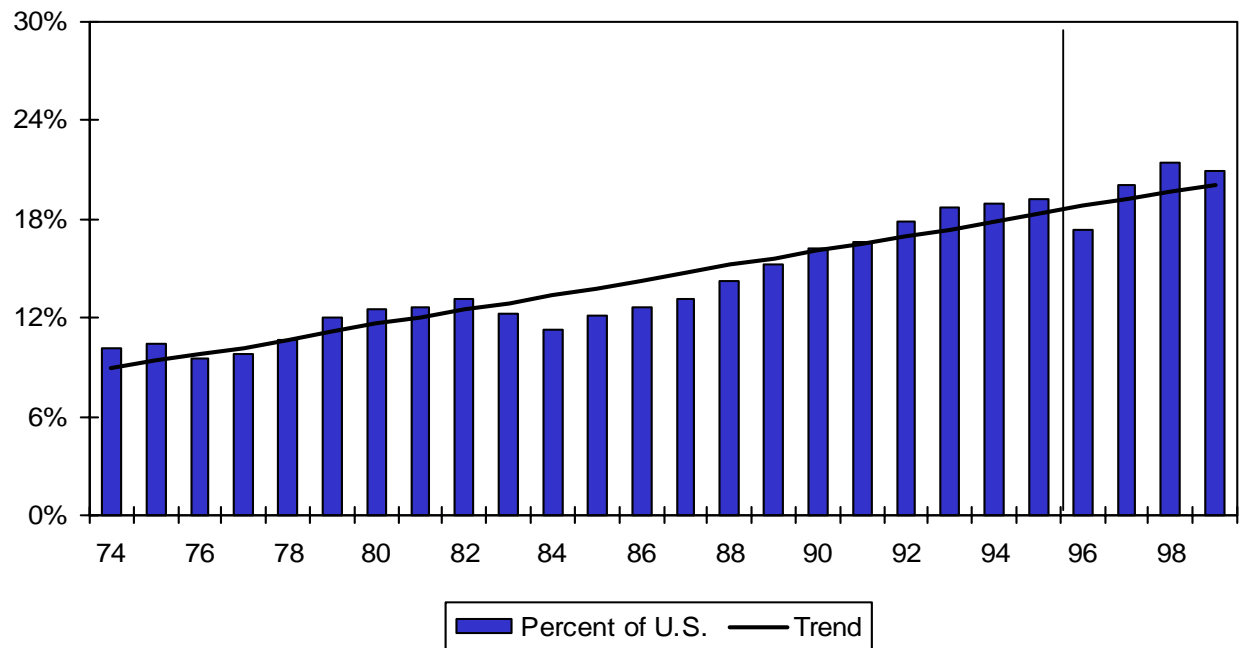
Manufacturing Employment Before and After the Exemption

- The following charts show Washington manufacturing employment as a share of U.S. manufacturing employment for 14 major manufacturing groups. The charts compare the trend in employment before the exemption with employment after the exemption.
- With the exception of the Electrical and Electronic Equipment group, it does not appear that Washington's share of manufacturing employment after the adoption of the exemption increased over the amount that would have occurred had the time trend of previous years continued.
- These results should be viewed as preliminary indications. They may change as more data becomes available.

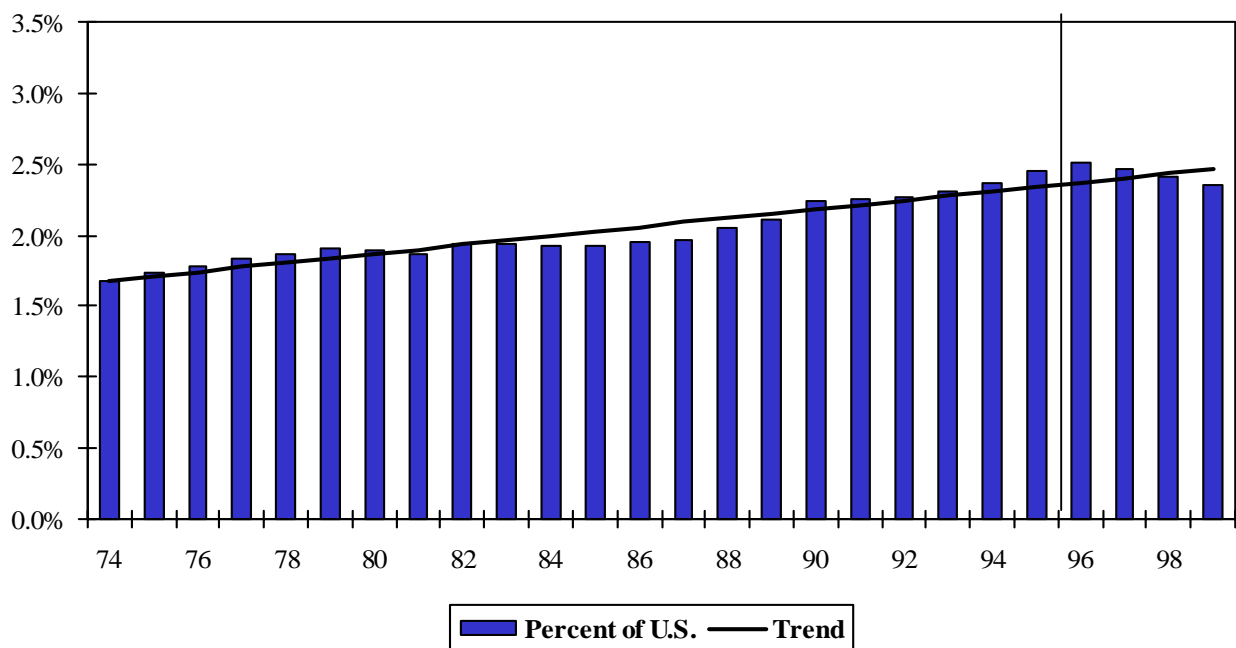
Employment Impacts Compared to U.S.

Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment

Aircraft and Parts (SIC 372)

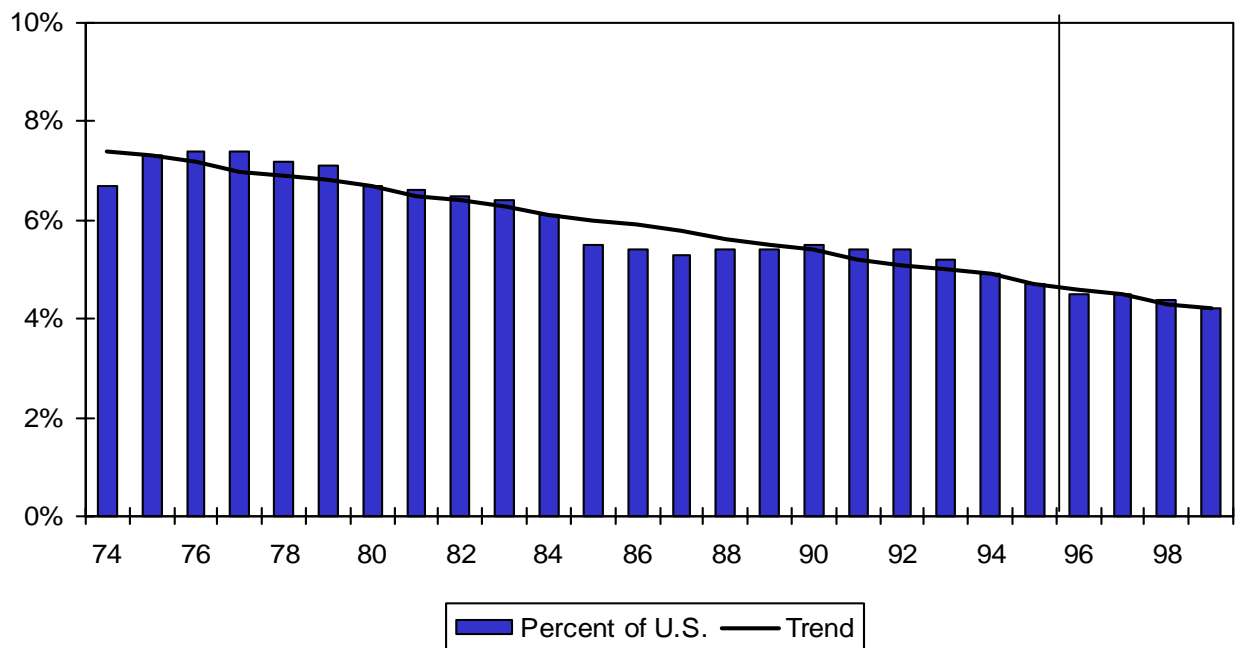


Food and Kindred Products (SIC 20)

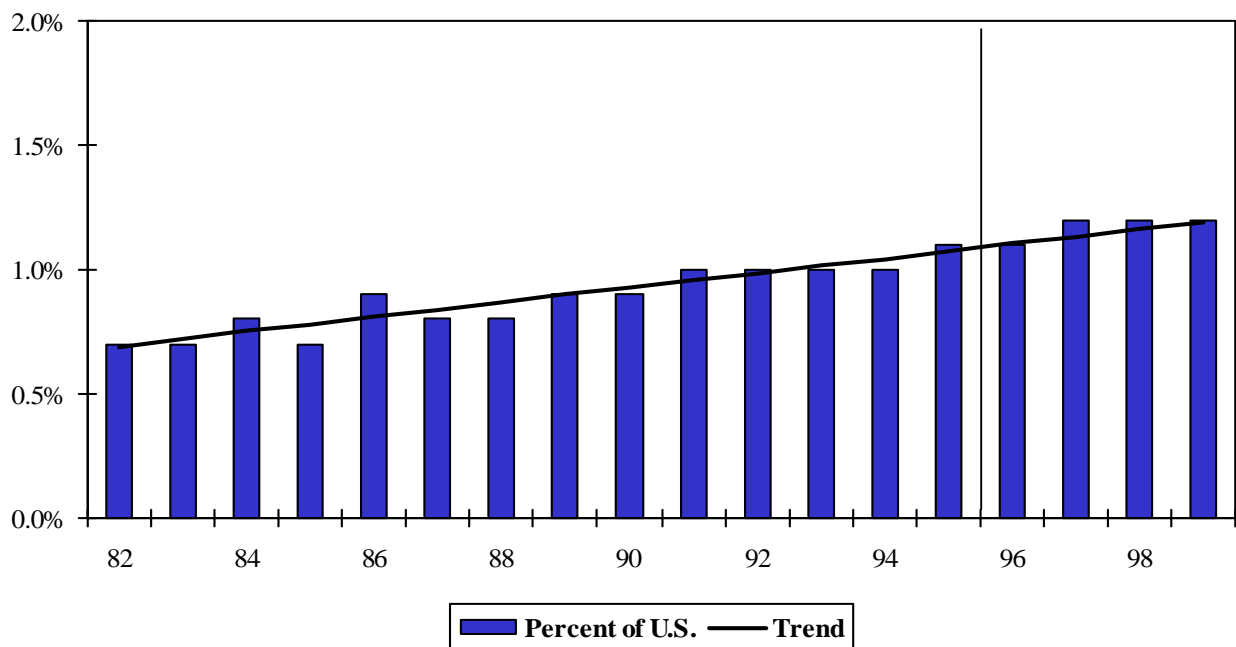


Employment Impacts Compared to U.S. Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment

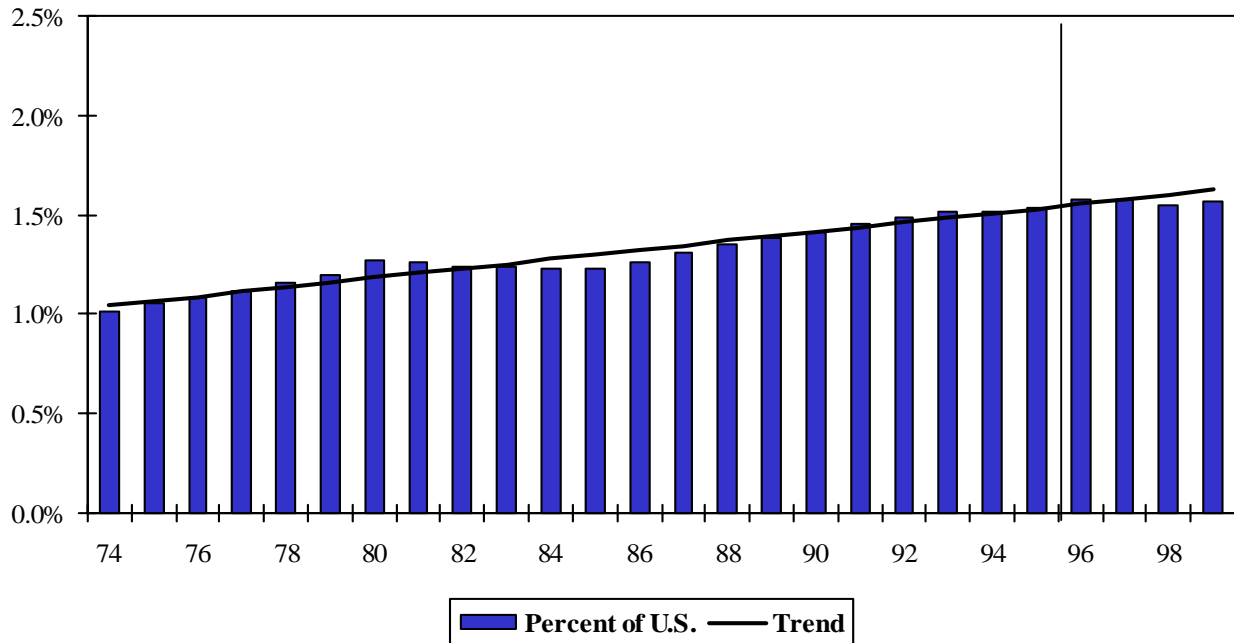
Lumber and Wood Products (SIC 24)



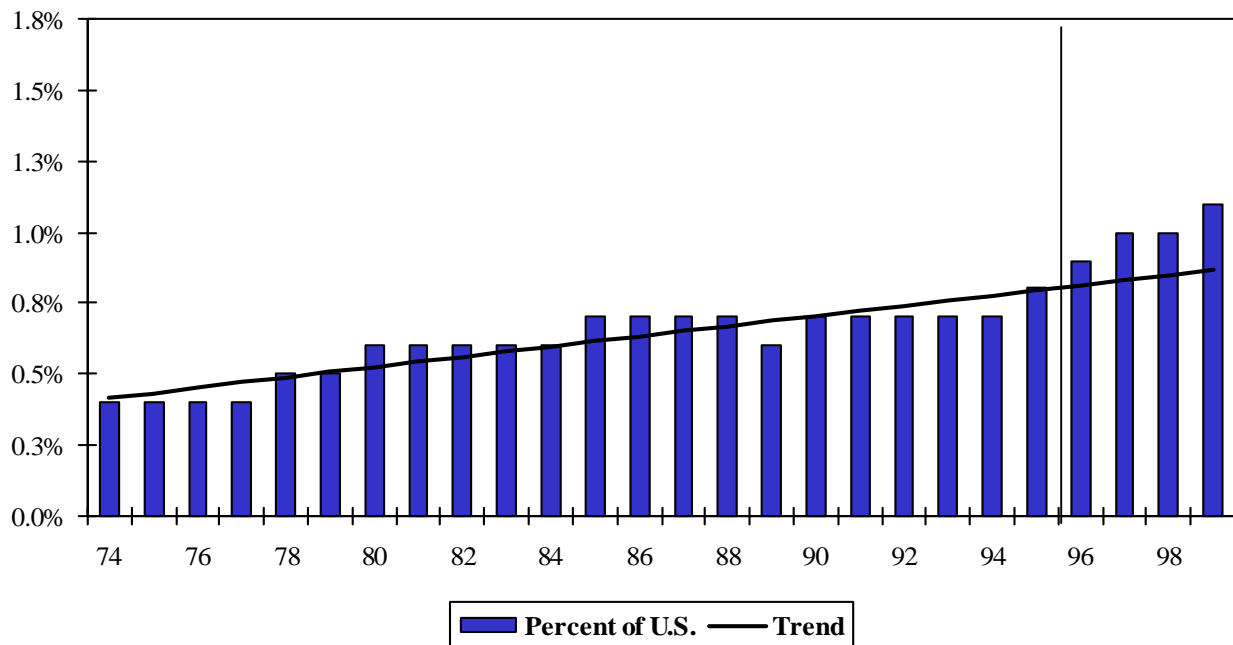
Machinery, excluding Electrical (SIC 35)



Employment Impacts Compared to U.S. Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment Printing and Publishing (SIC 27)

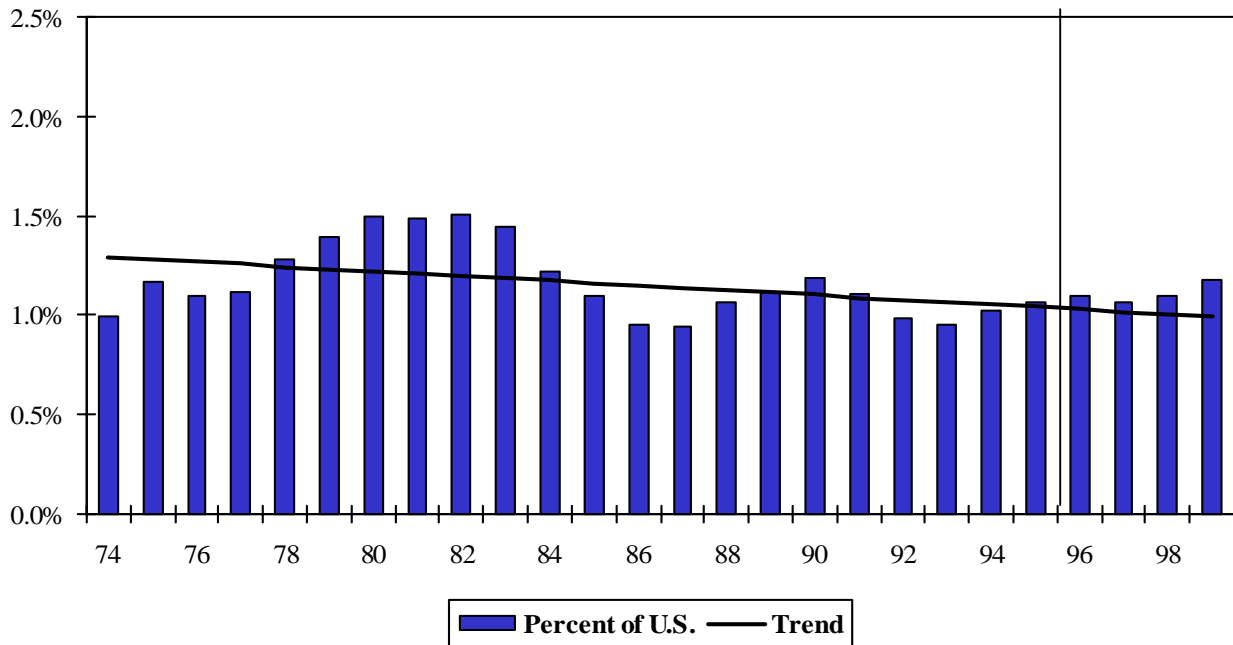


Electronic and Other Electric Equipment (SIC 36)

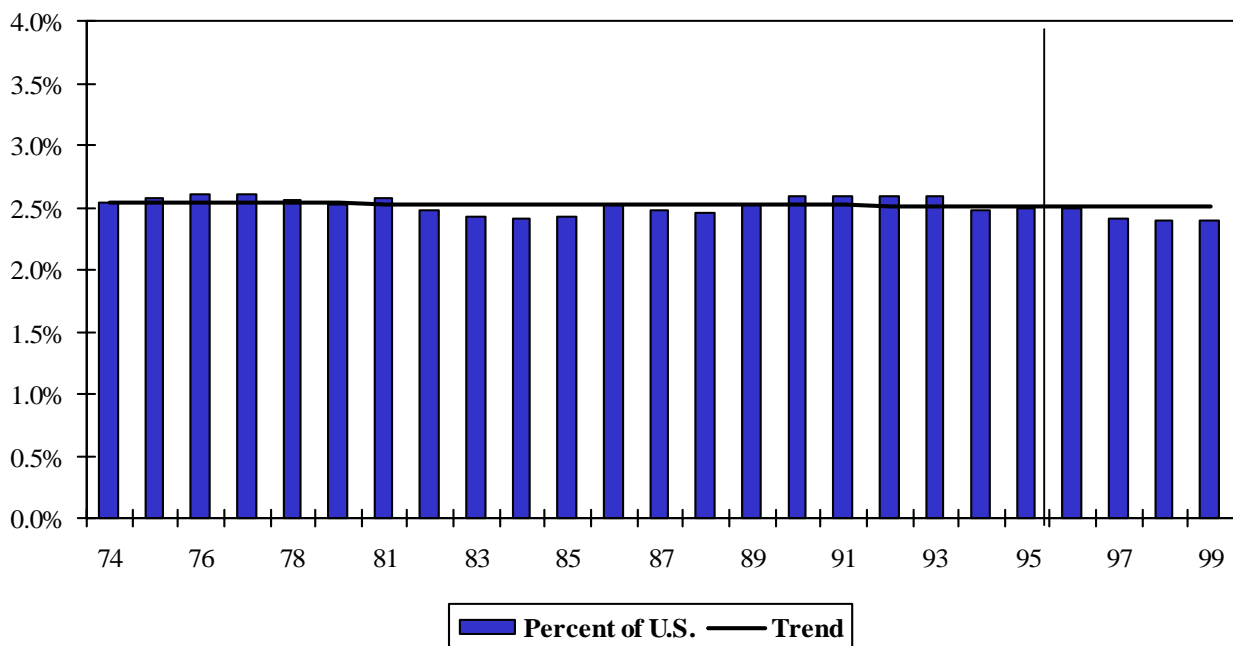


Employment Impacts Compared to U.S.

Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment Transportation Equip. excluding Aircraft (SIC 37-372)



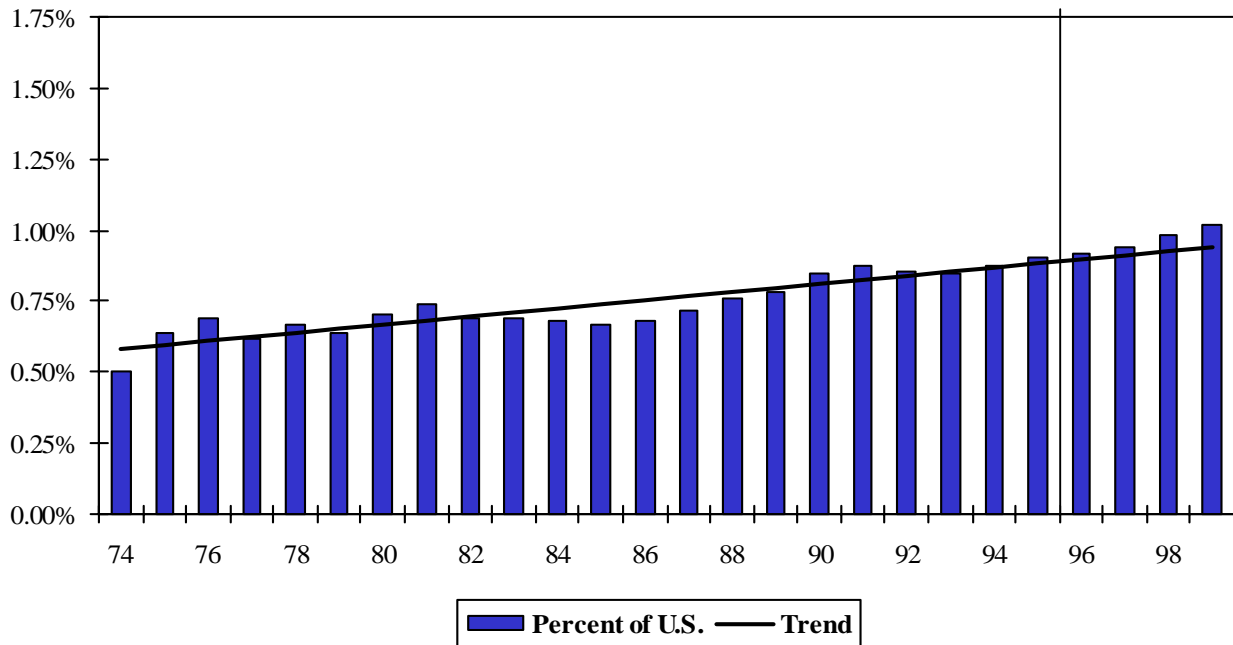
Paper and Allied Products (SIC 26)



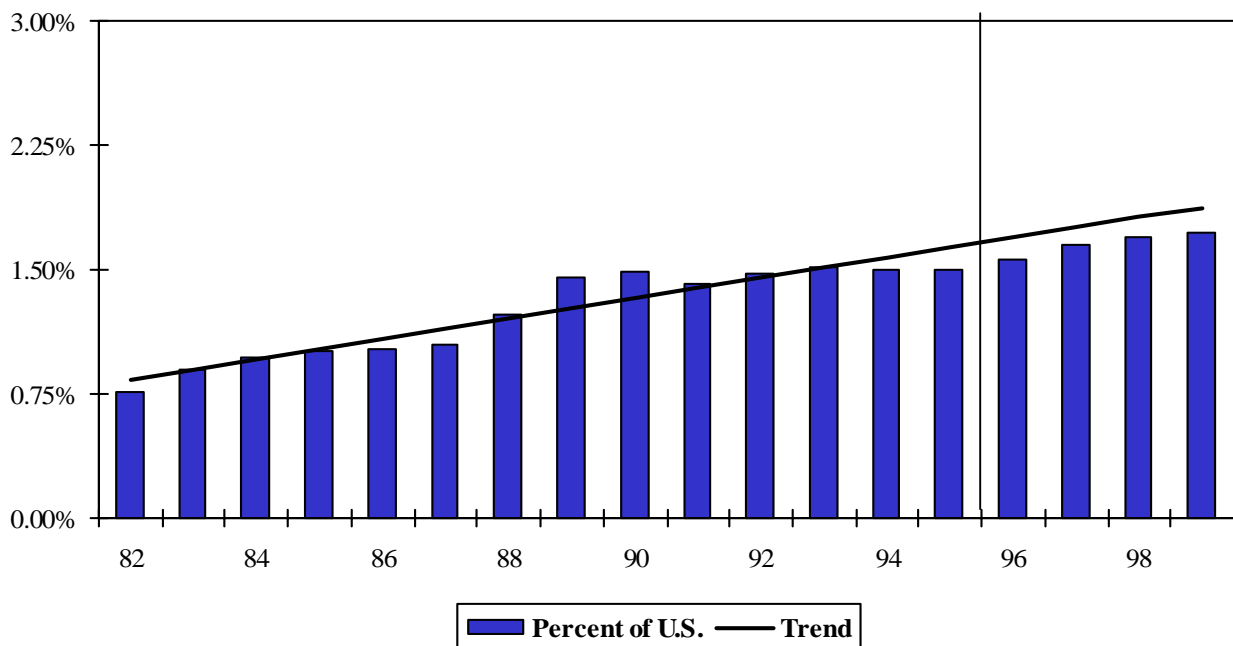
Employment Impacts Compared to U.S.

Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment

Fabricated Metal Products (SIC 34)

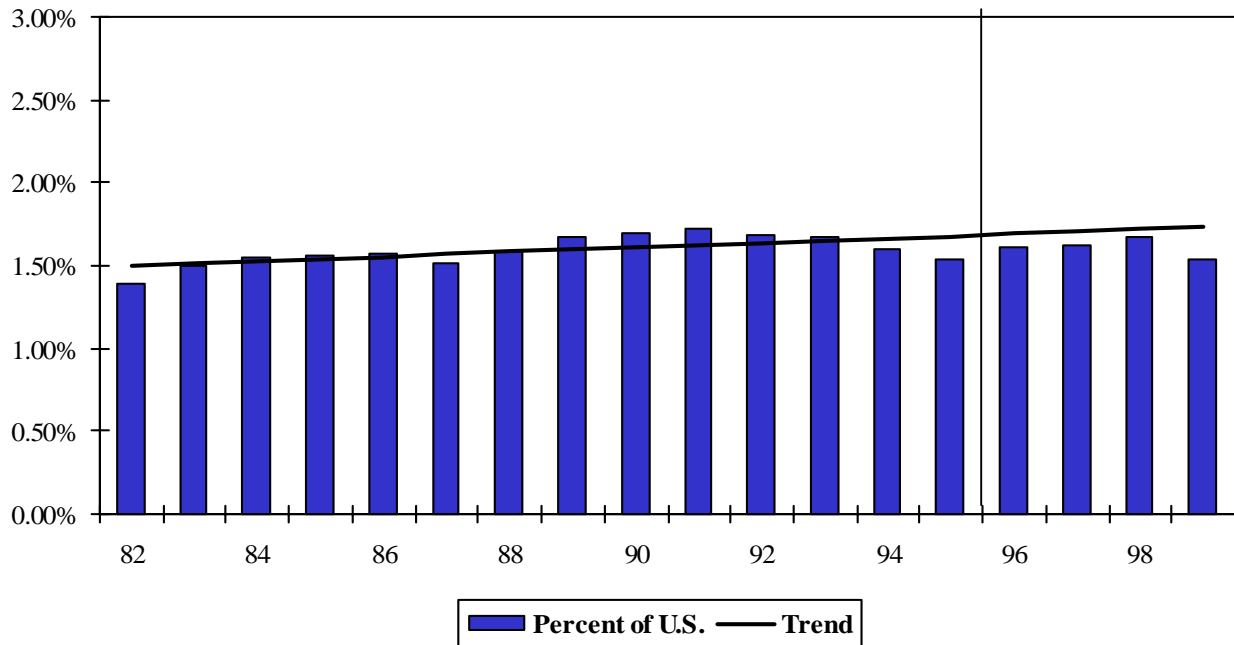


Instruments and Related Products (SIC 38)

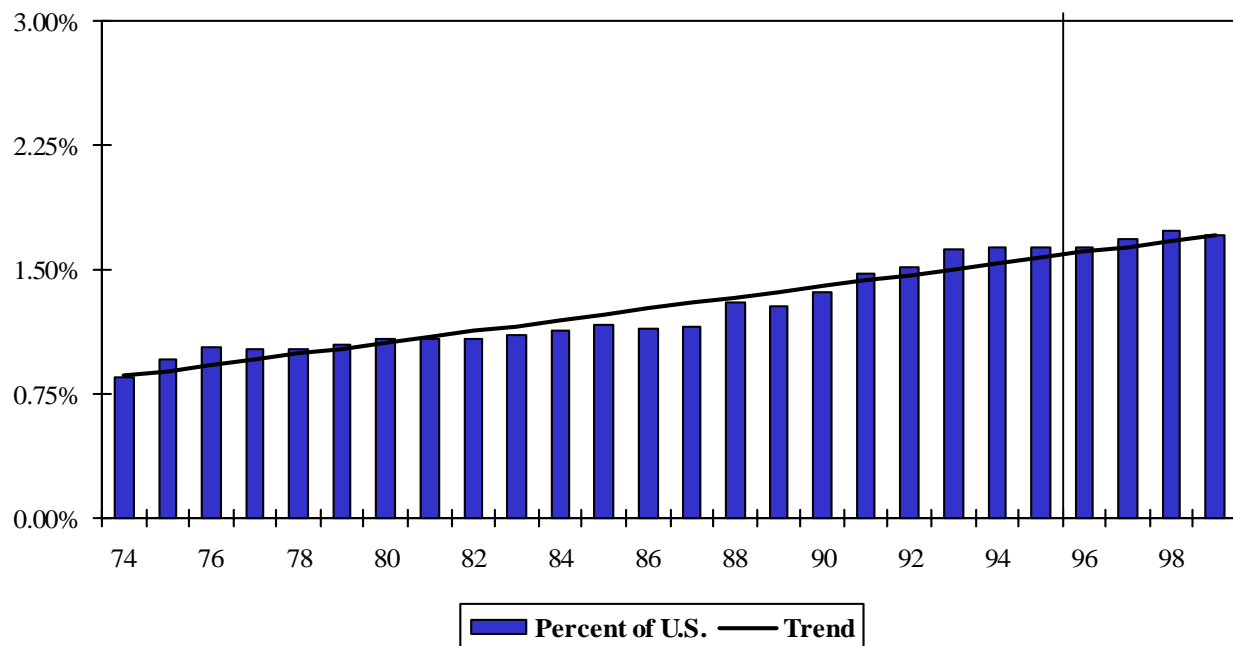


Employment Impacts Compared to U.S. Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment

Primary Metal Industries (SIC 33)



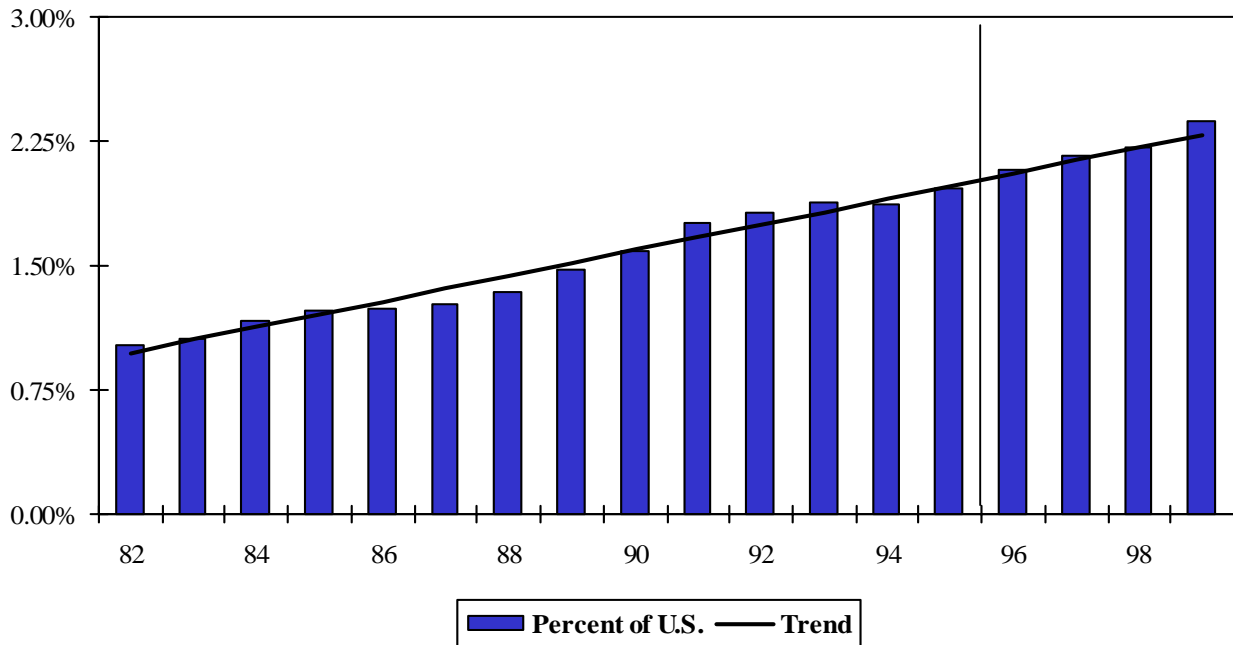
Stone, Clay, and Glass Products (SIC 32)



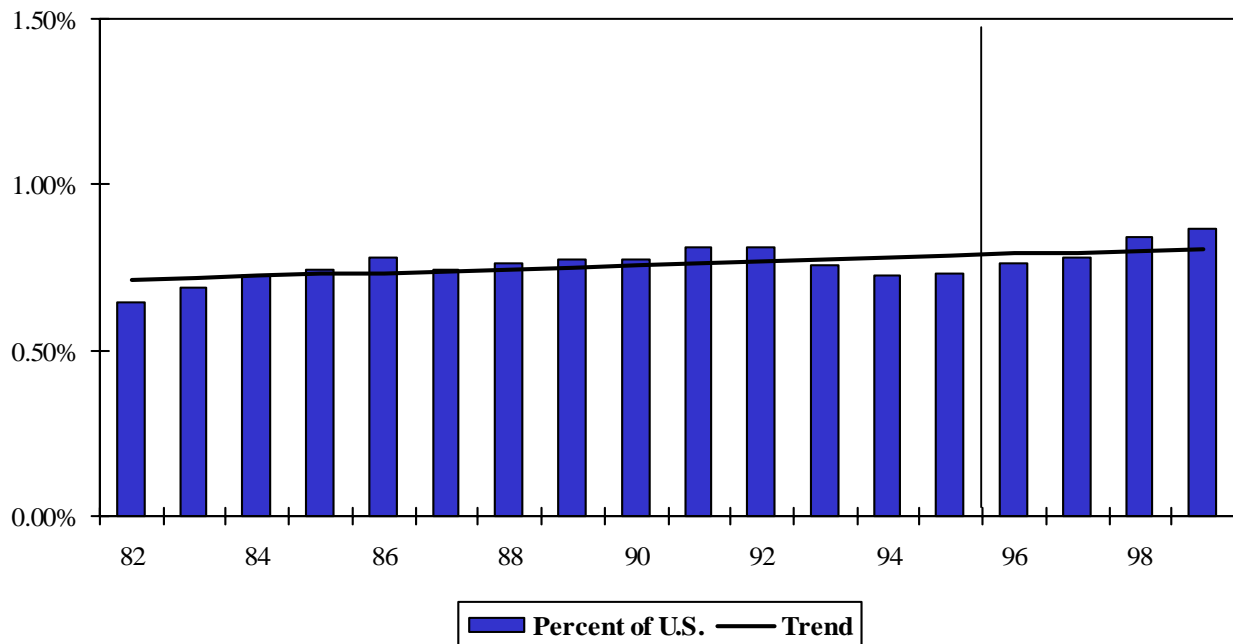
Employment Impacts Compared to U.S.

Washington Manufacturing Employment as a percent of U.S. Manufacturing Employment

Misc. Manufacturing Industries (SIC 39)



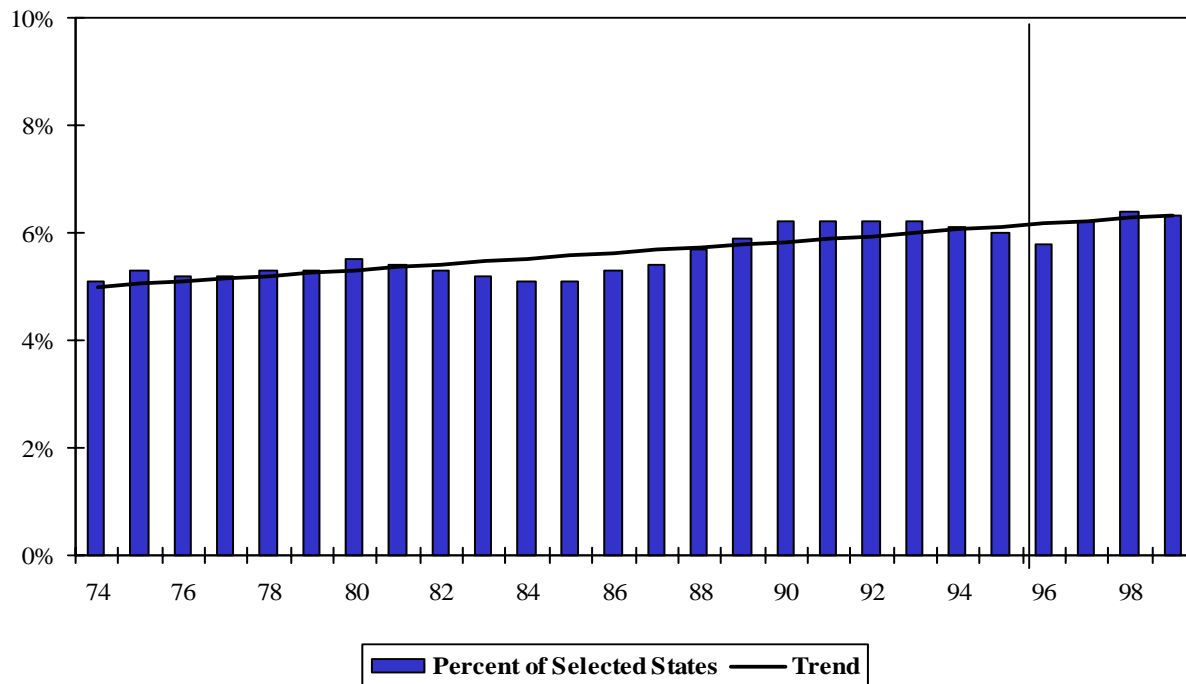
Furniture and Fixtures (SIC 25)



Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

- The 1994 study compared Washington's taxes on manufacturers to taxes in 11 other states:
 - Arizona, Alabama, California, Colorado, Florida, Idaho, Minnesota, Montana, North Carolina, Oregon, and Texas.
- Washington manufacturing employment as a percent of the selected states' manufacturing employment has increased over time.
- Washington's share after the adoption of the exemption appears to be consistent with the trend before the adoption of the exemption.

**Washington v. Selected States
Total Manufacturing Employment**



Employment Impacts Selected States

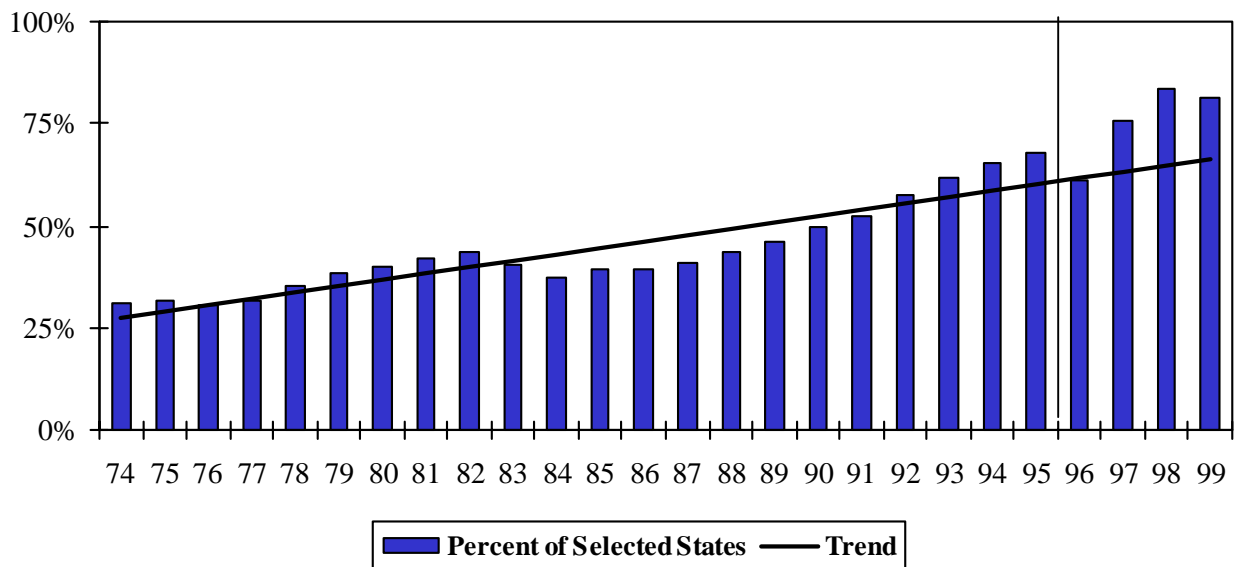
Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

- The following charts show Washington manufacturing employment as a percent of the selected states' manufacturing employment for 13 major manufacturing groups. The charts compare the trend in employment before the exemption with employment after the exemption.
- The Electrical and Electronic Equipment, Aircraft and Parts, and Miscellaneous Manufacturing groups show an improvement relative to these selected states.
- For the other groups it does not appear that Washington's share of manufacturing employment after the adoption of the exemption increased over the amount that would have occurred had the time trend of previous years continued.
- Note: Montana is not included in the charts because Montana employment data by 2 digit SIC is not generally available

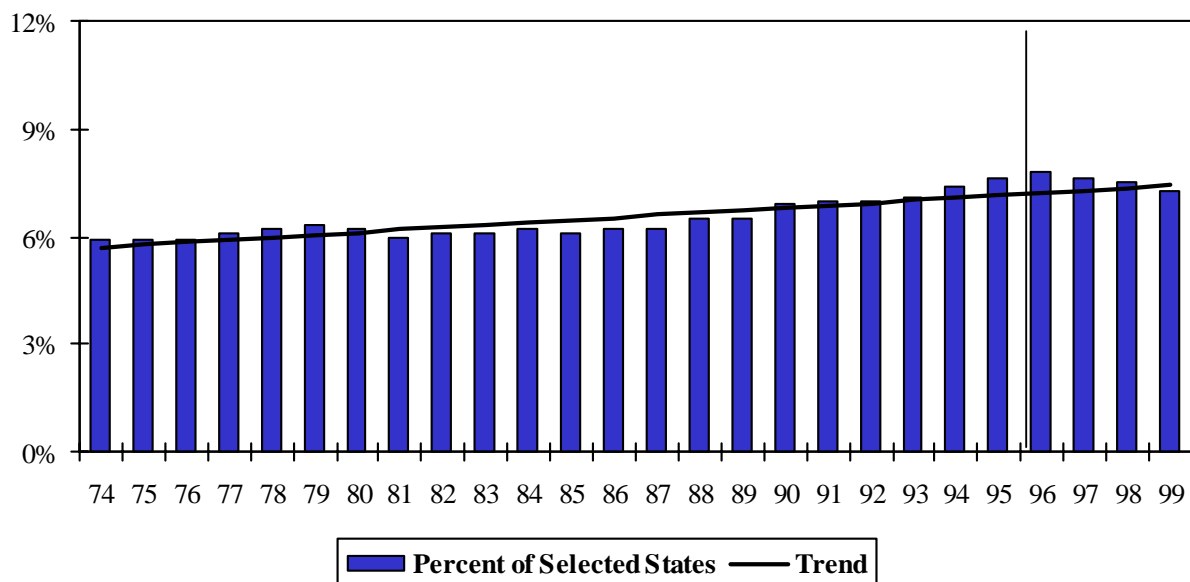
Employment Impacts Selected States

Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Aircraft and Parts (SIC 372)



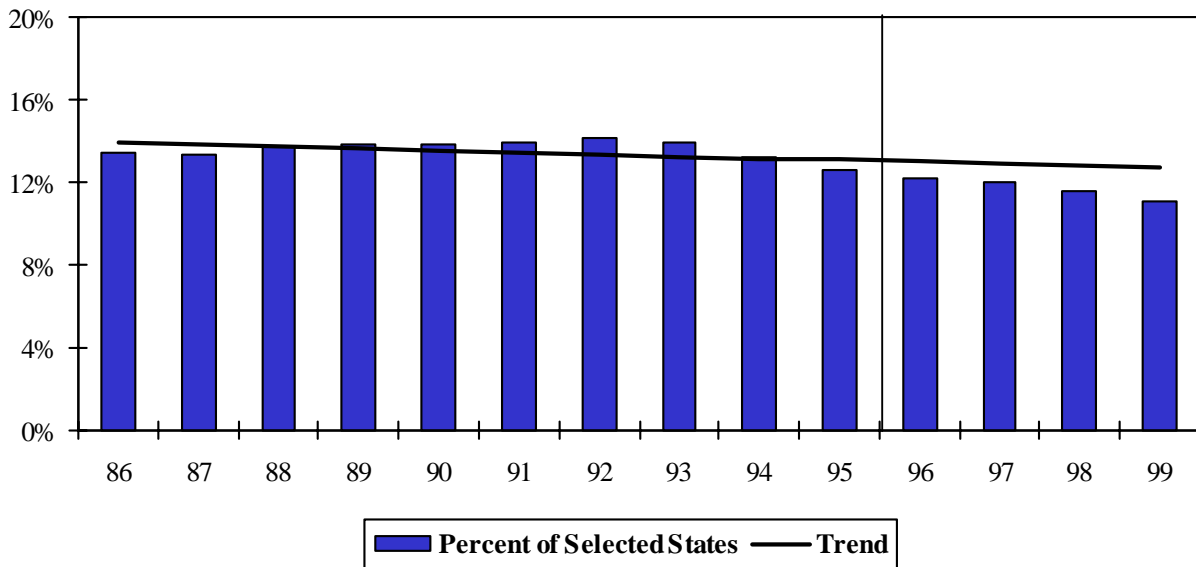
Food and Kindred Products (SIC 20)



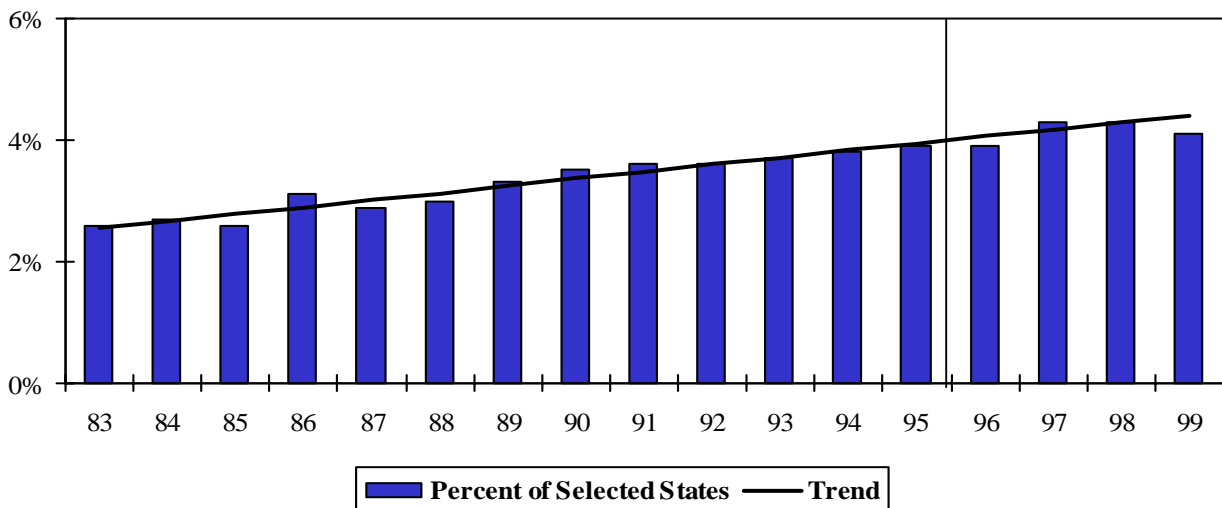
Employment Impacts Selected States

Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Lumber and Wood Products (SIC 24)

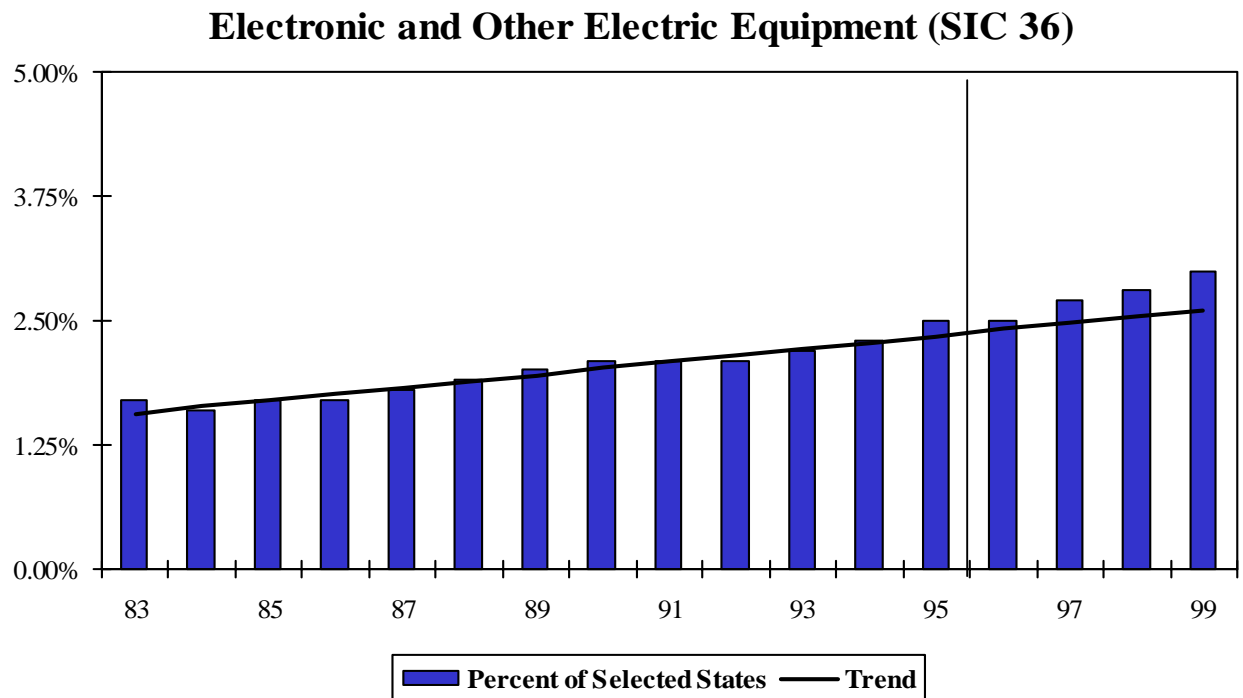
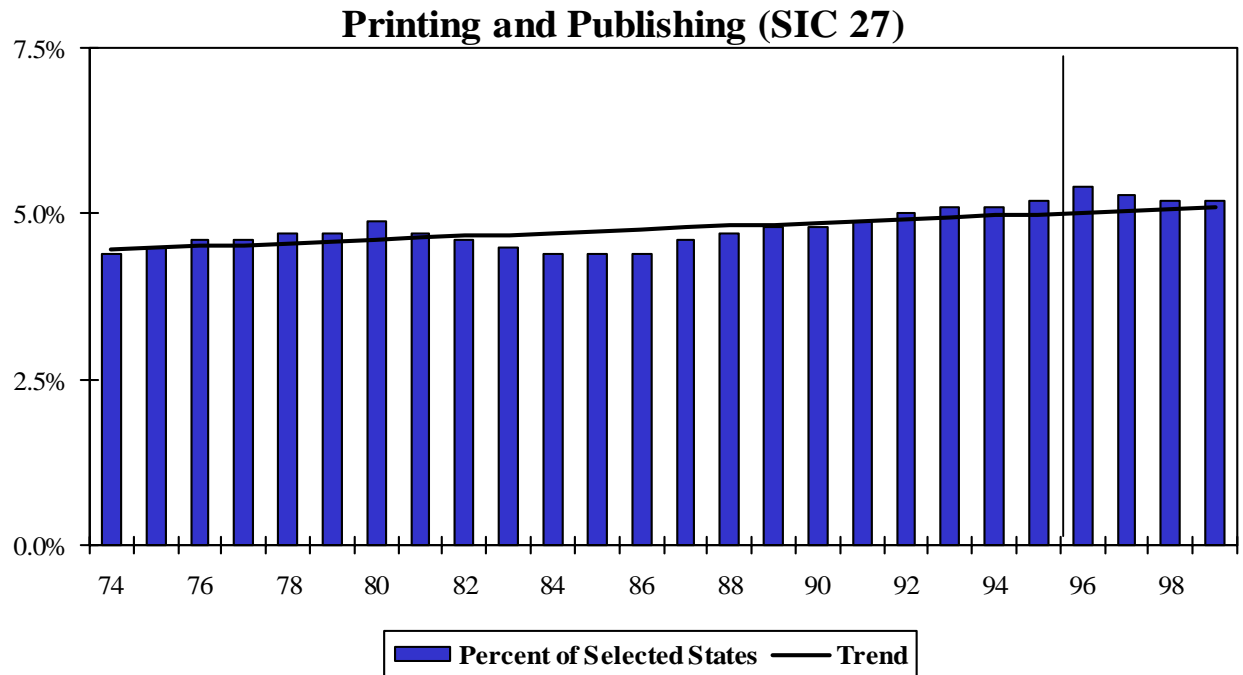


Machinery, excluding Electrical (SIC 35)



Employment Impacts Selected States

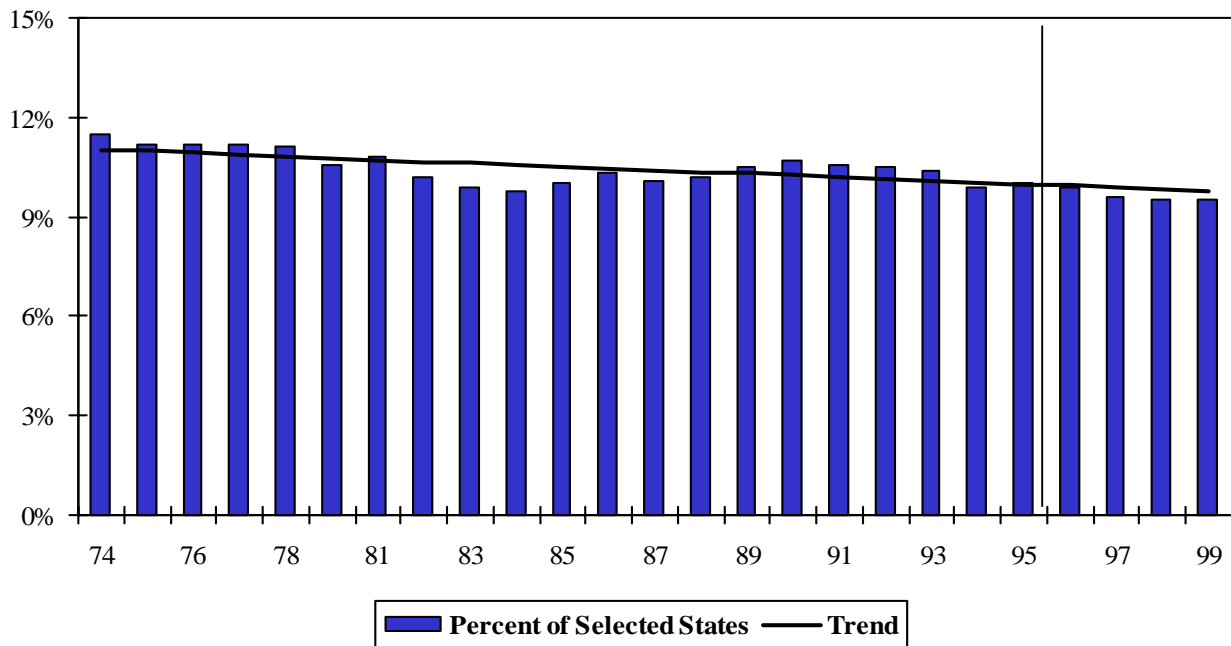
Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment



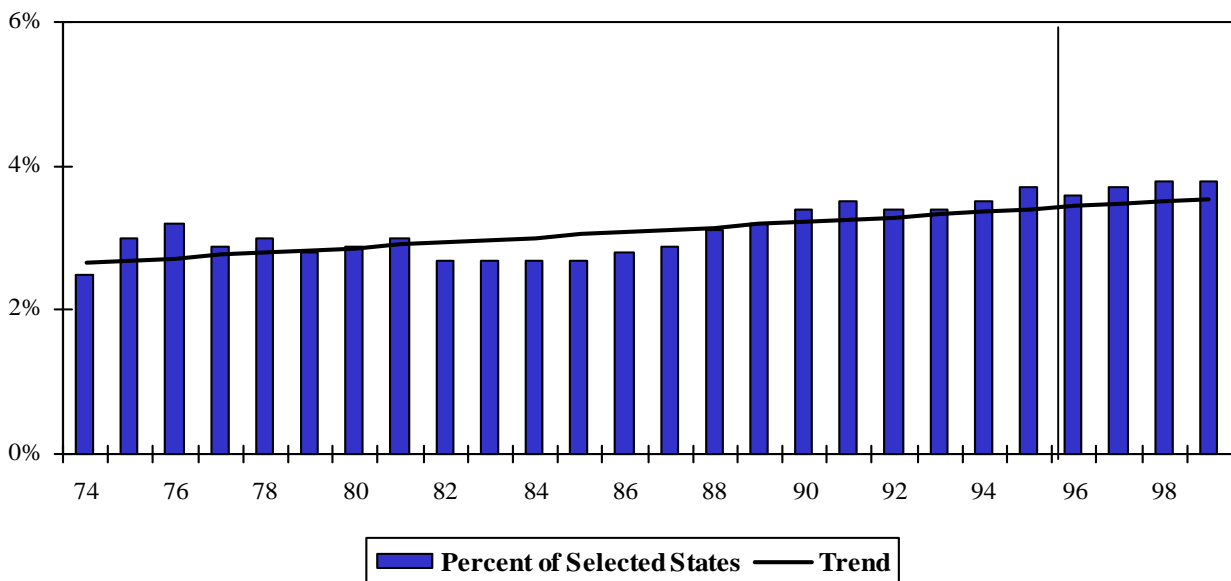
Employment Impacts Selected States

Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Paper and Allied Products (SIC 26)



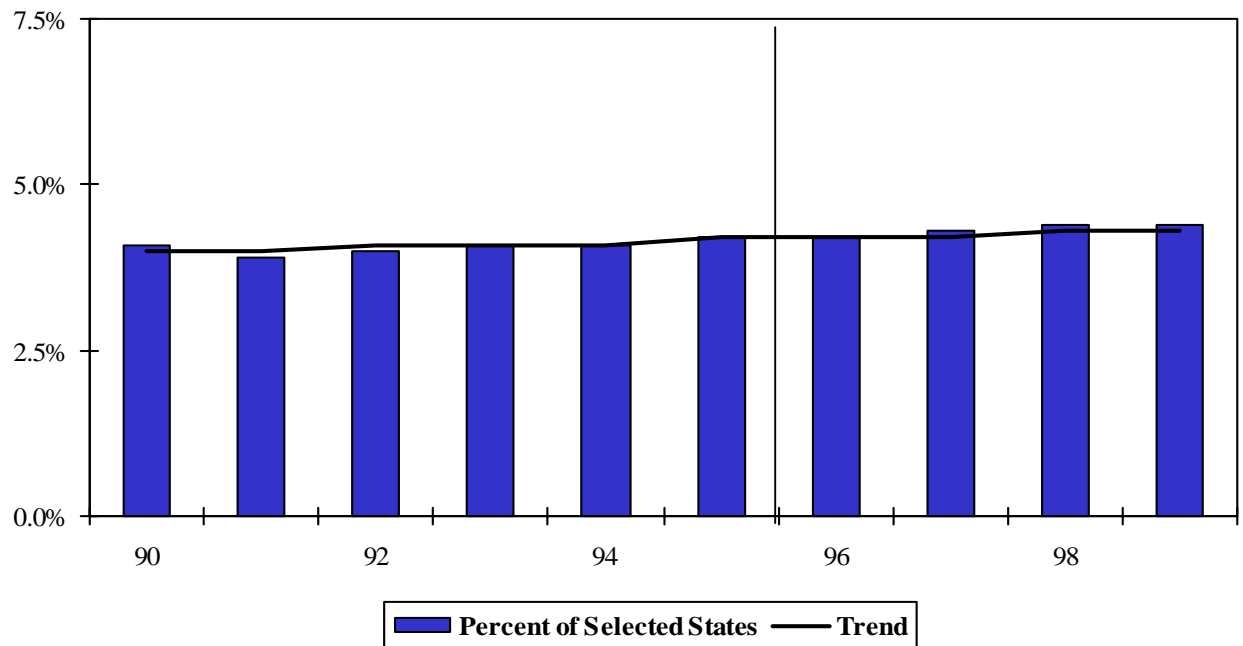
Fabricated Metal Products (SIC 34)



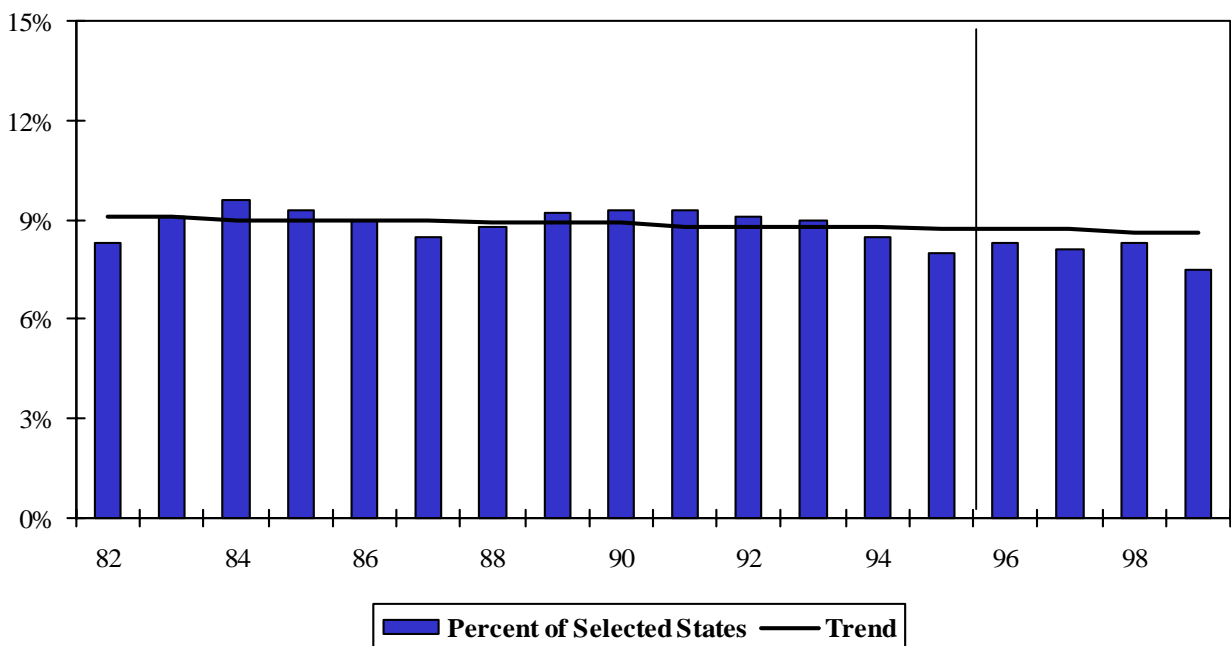
Employment Impacts Selected States

Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Instruments and Related Products (SIC 38)



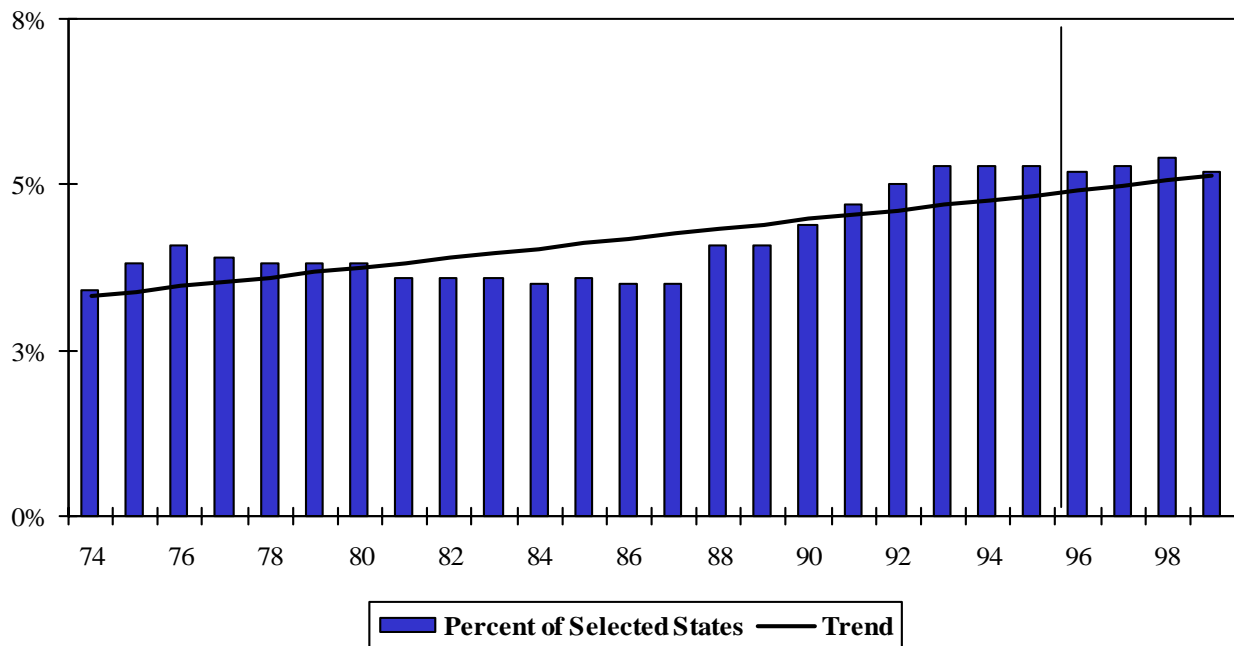
Primary Metal Industries (SIC 33)



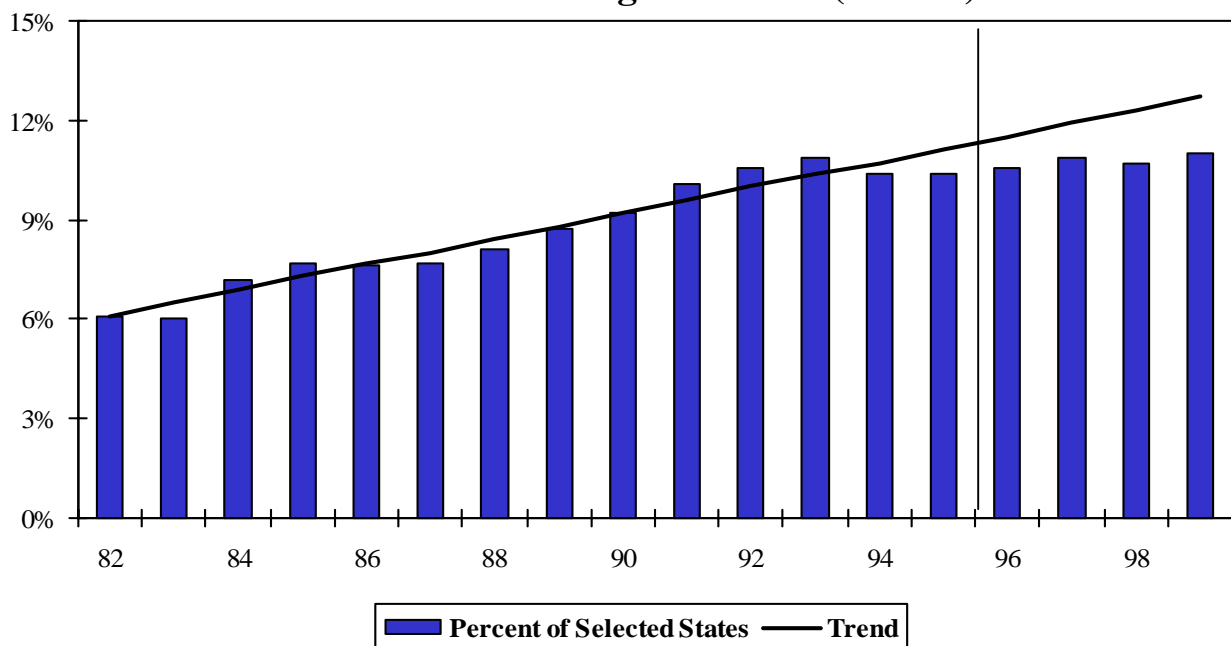
Employment Impacts Selected States

Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Stone, Clay, and Glass Products (SIC 32)



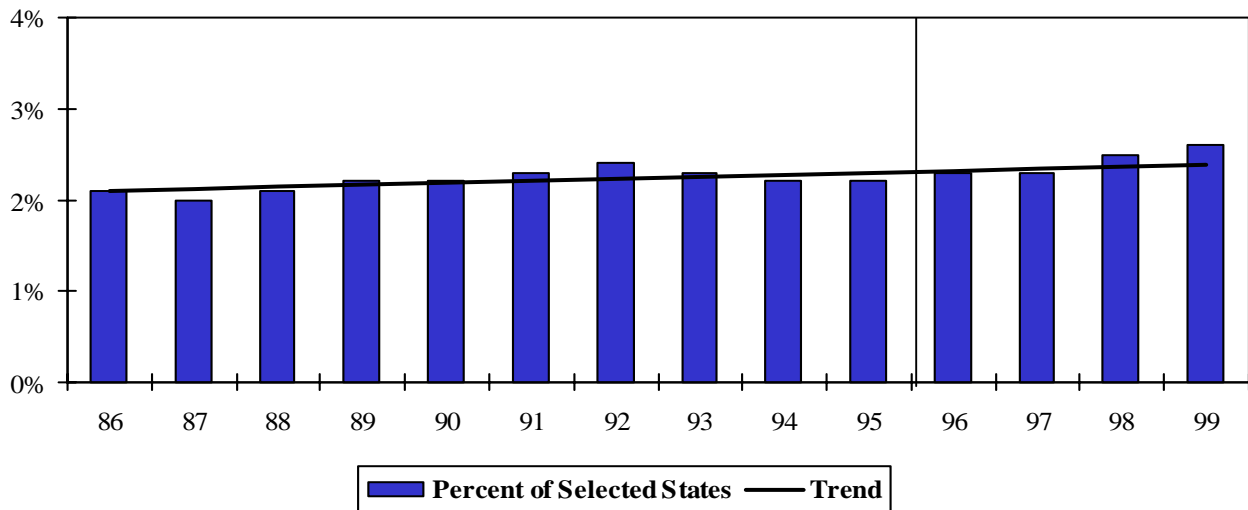
Misc. Manufacturing Industries (SIC 39)



Employment Impacts Selected States

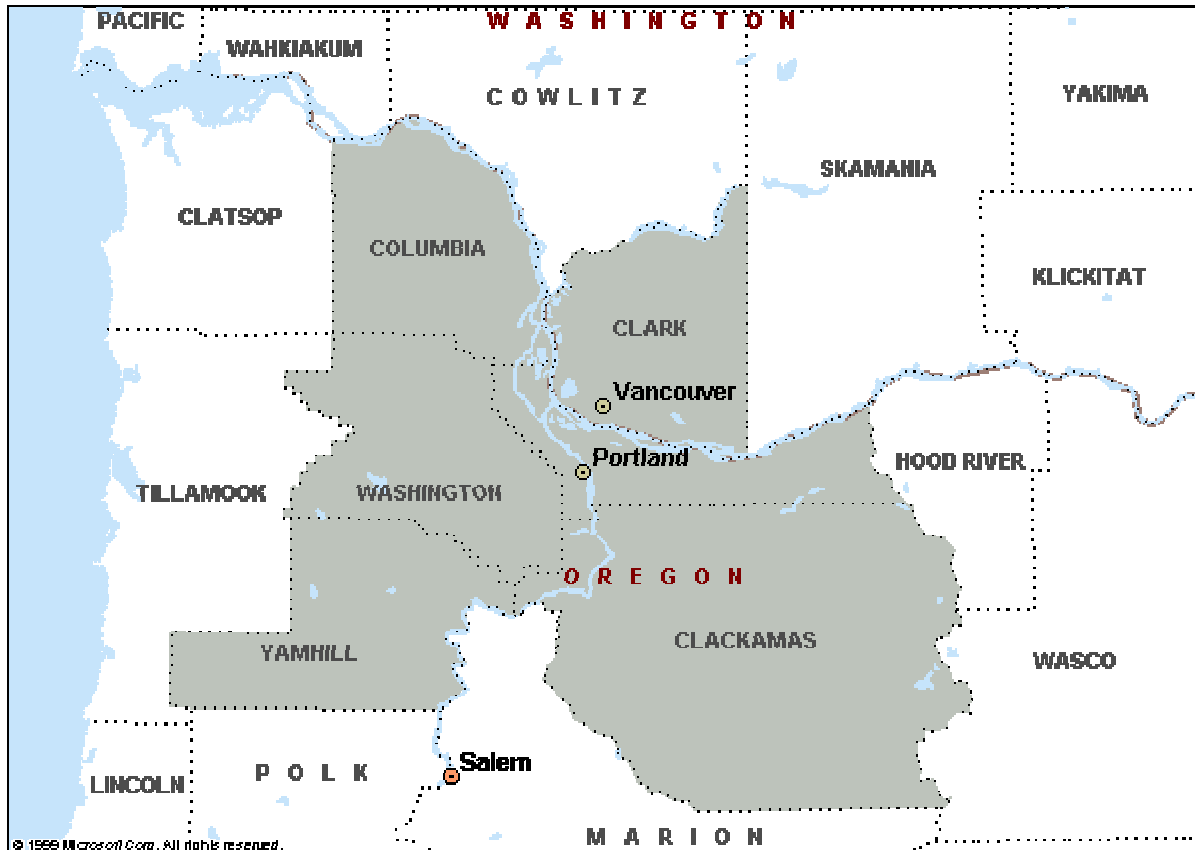
Washington Manufacturing Employment as a percent of Selected States Manufacturing Employment

Furniture and Fixtures (SIC 25))



Clark County compared to Portland Metropolitan Area

- Clark County is a part of the Portland PMSA (Primary Metropolitan Statistical Area).
- Manufacturing employment in the Portland PMSA is about 0.8% of U.S. manufacturing employment

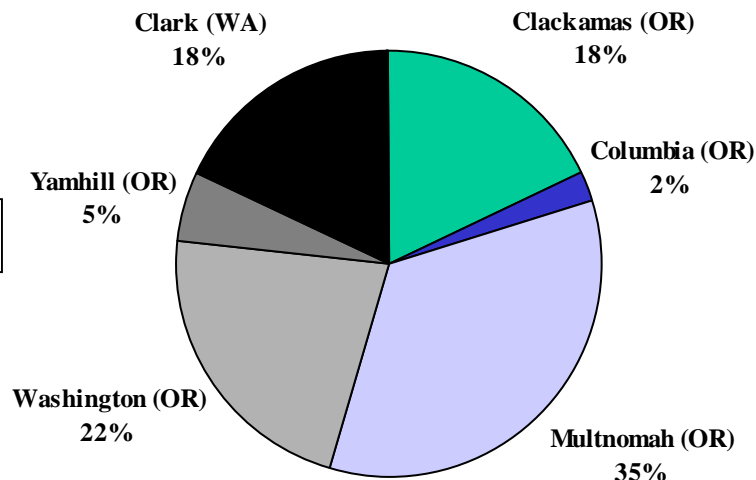


Employment Impacts Clark County

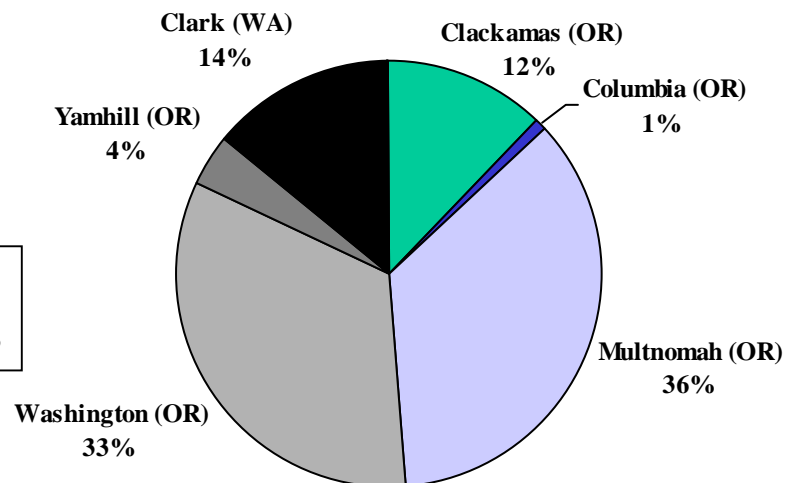
Clark County compared to Portland Metropolitan Area

- Clark County has 18% of Portland PMSA's population (1998).
- Clark County has 14% of Portland PMSA's employment in manufacturing (1998).

Population Shares



**Manufacturing
Employment Shares**

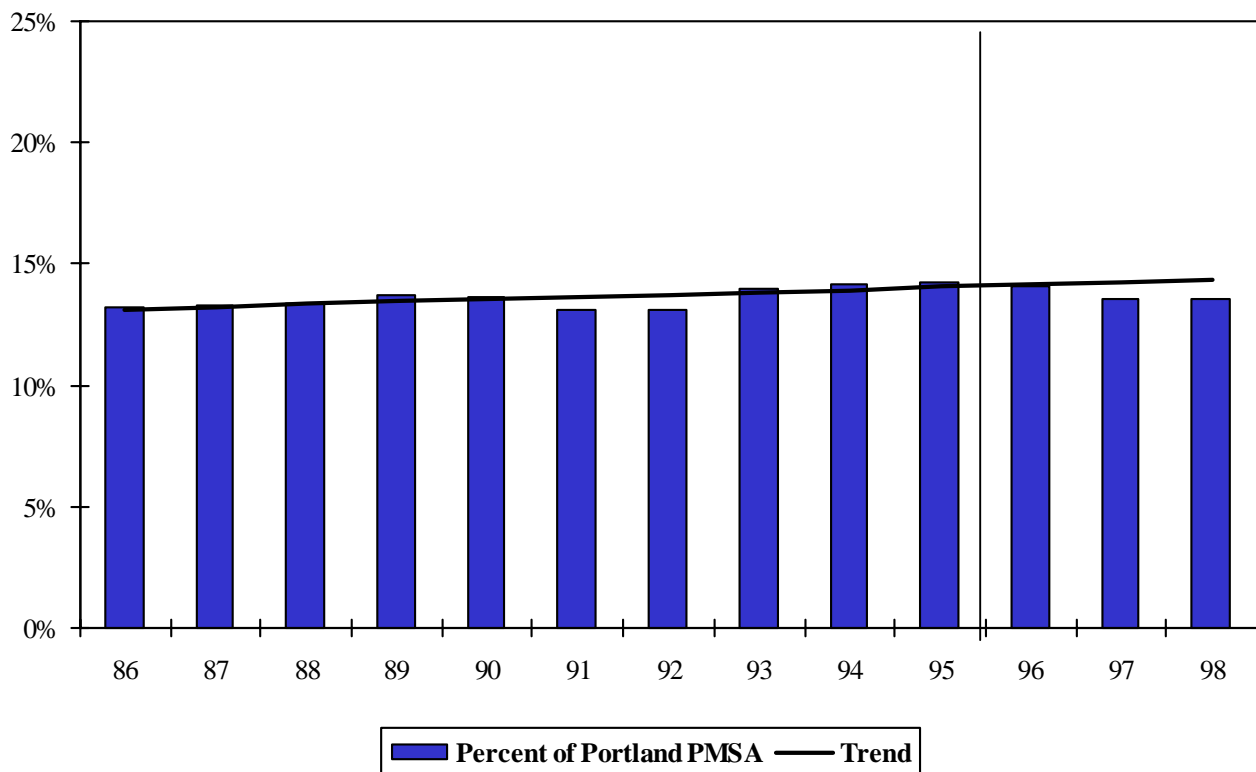


Employment Impacts Clark County

Clark County compared to Portland Metropolitan Area

- Clark County's share of Portland PMSA manufacturing employment has remained between 13% and 14% over past 12 years.
- The following graphs show how Clark County's manufacturing employment compares to Portland PSMA's manufacturing employment in selected manufacturing industries.

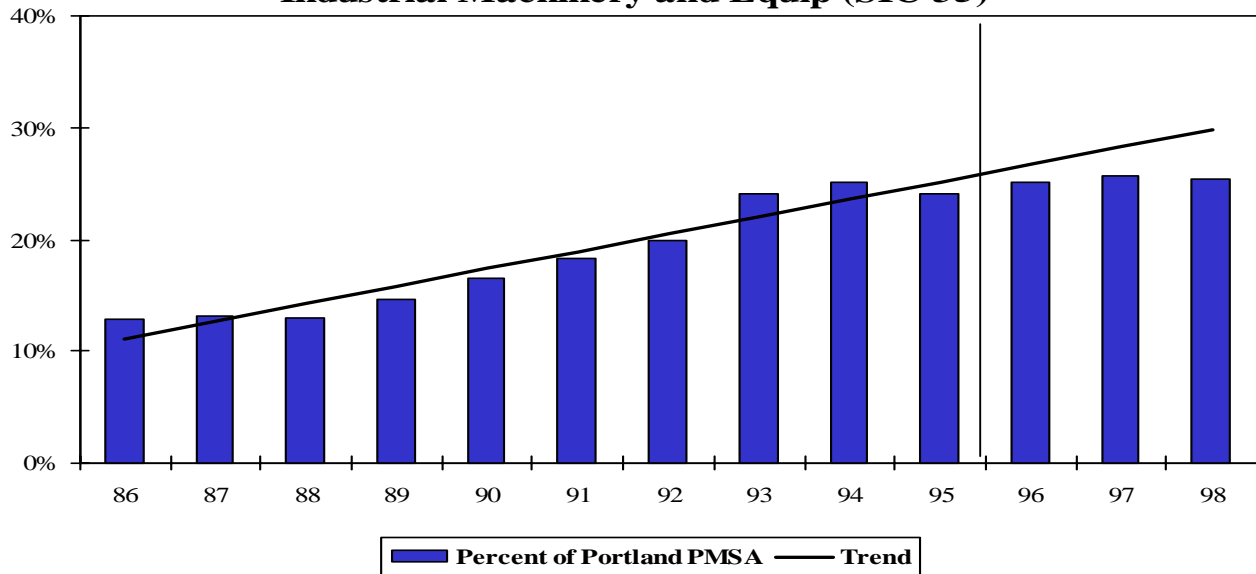
**Clark County / Portland PMSA
Total Manufacturing Employment**



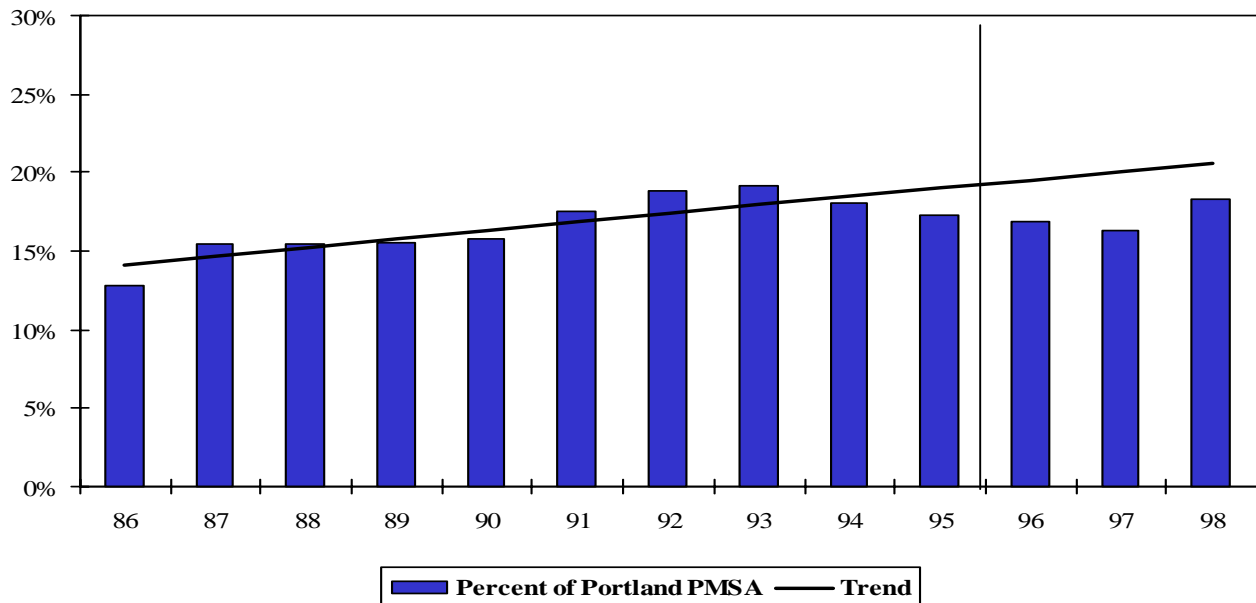
Employment Impacts Clark County

Clark County compared to Portland Metropolitan Area

**Clark County as a Percent of Portland PMSA
Industrial Machinery and Equip (SIC 35)**



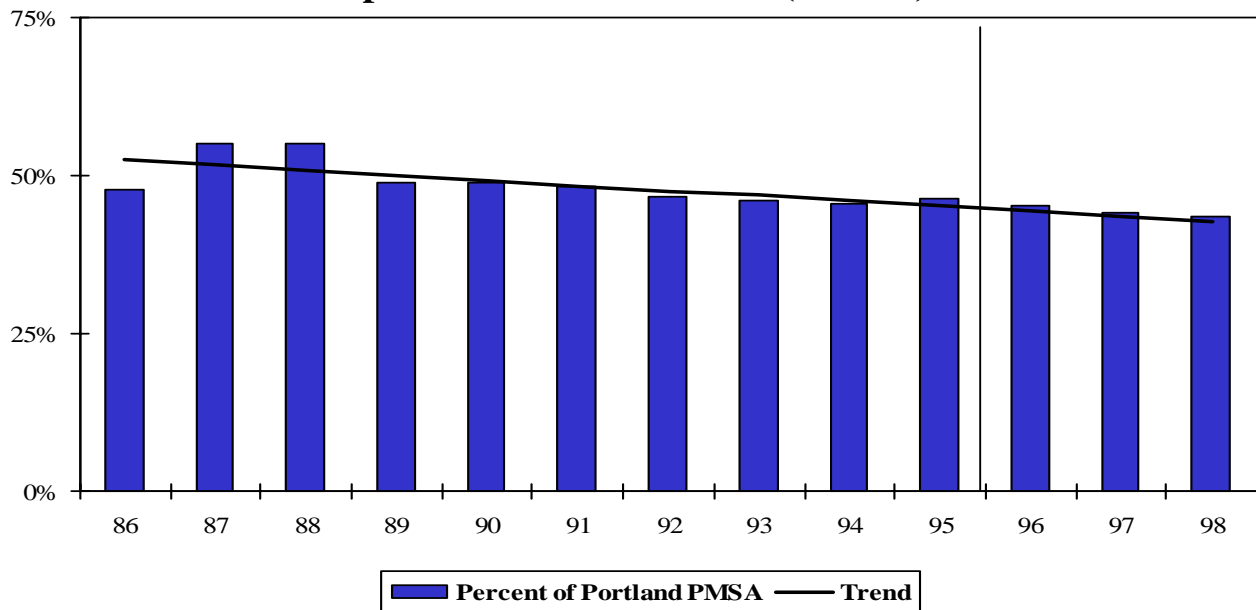
**Clark County as a Percent of Portland PMSA
Electronic and Electrical Equipment (SIC 36)**



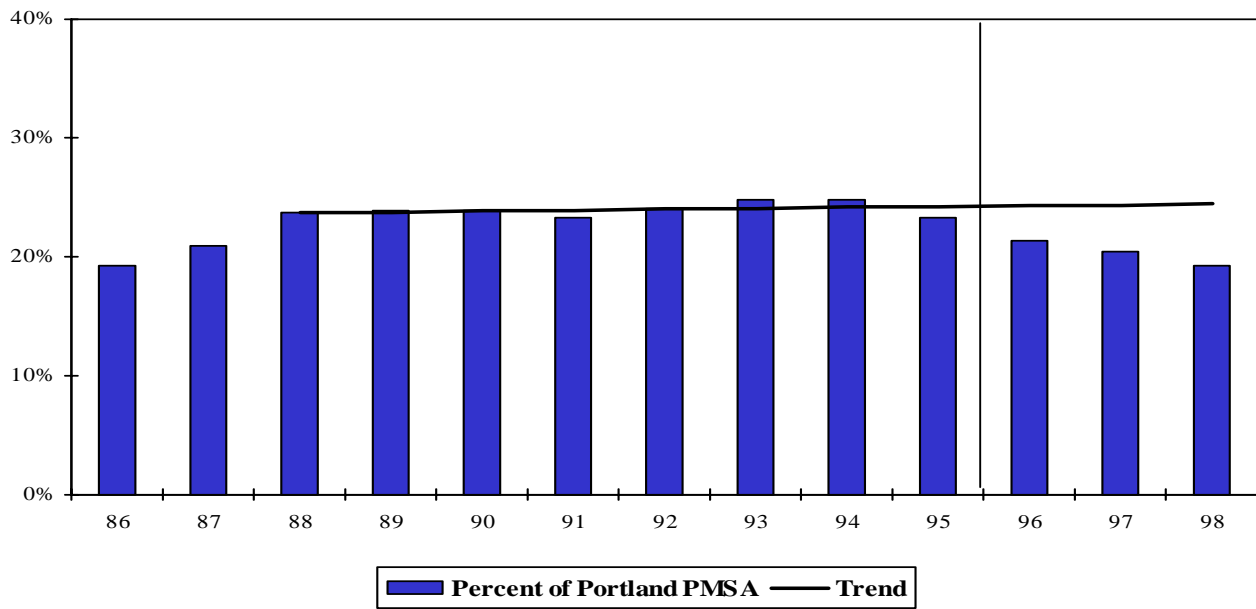
Employment Impacts Clark County

Clark County compared to Portland Metropolitan Area

**Clark County as a Percent of Portland PMSA
Paper and Allied Products (SIC 26)**



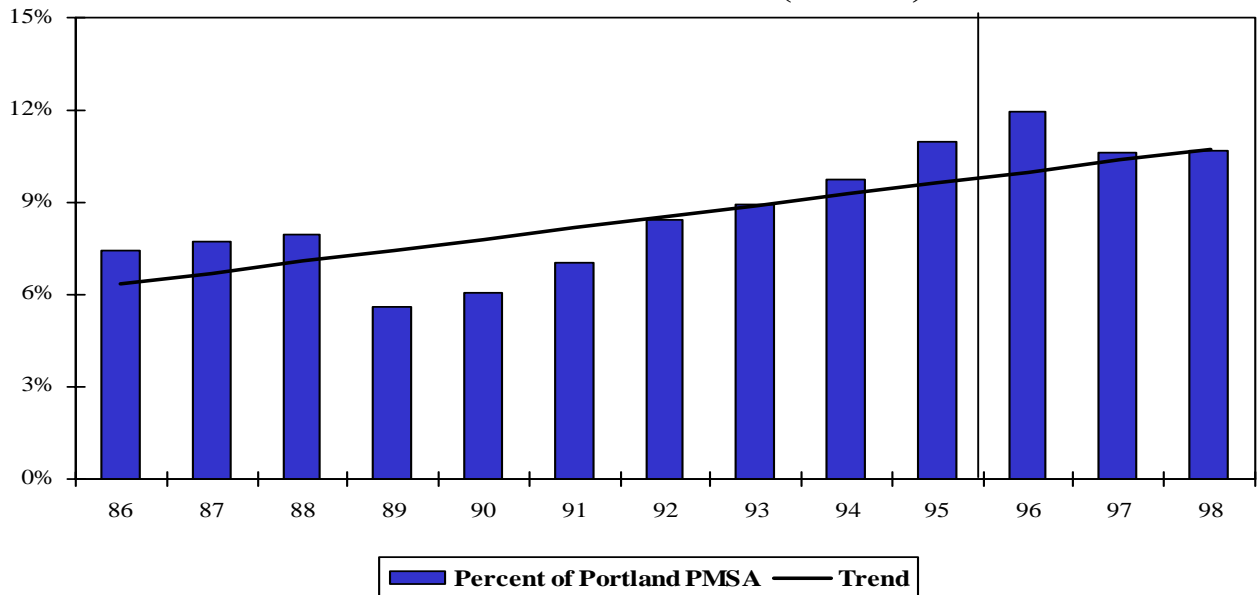
**Clark County as a Percent of Portland PMSA
Lumber and Wood Products (SIC 24)**



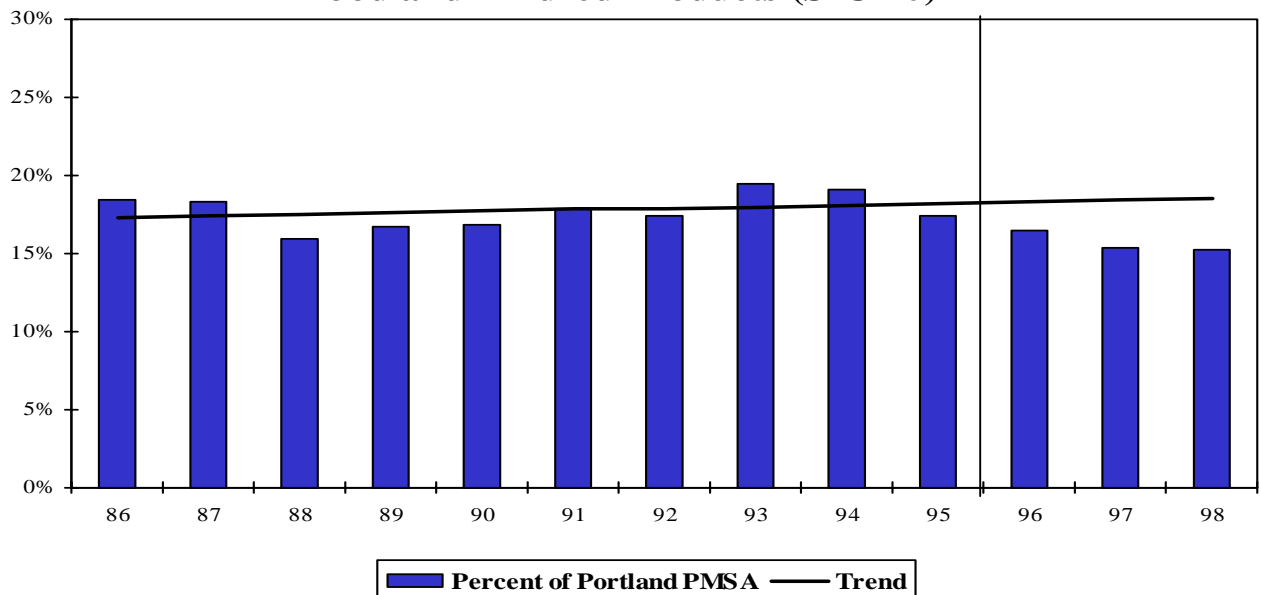
Employment Impacts Clark County

Clark County compared to Portland Metropolitan Area

**Clark County as a Percent of Portland PMSA
Fabricated Metal Products(SIC 34)**



**Clark County as a Percent of Portland PMSA
Food and Kindred Products (SIC 20)**



Diversification of the State's Economy

- The study language calls for an analysis of the effect of the manufacturing sales tax exemption on diversification of the state's economy.
- This section looks at economic diversification in three ways:
 - Manufacturing as a share of total employment,
 - Manufacturing employment by industry, and
 - Manufacturing employment by region.

Diversification of the State's Economy

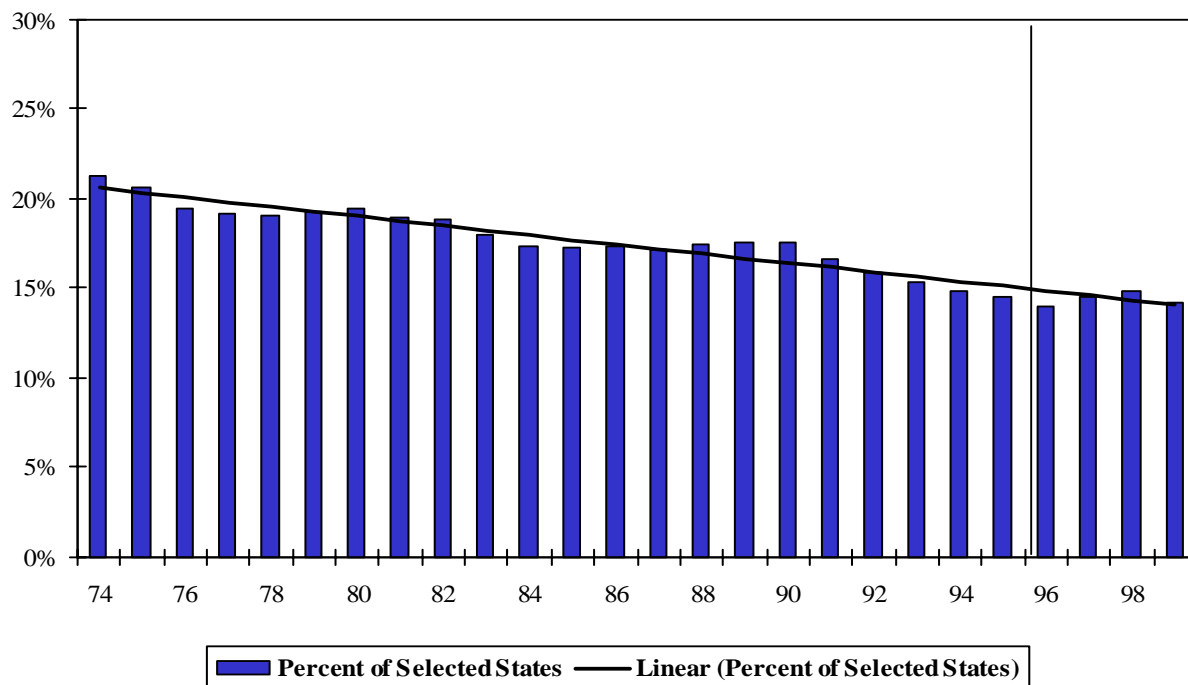
- The following analysis indicates that:
 - Manufacturing employment continues to be a declining share of the state's total employment.
 - The following industries increased their share of manufacturing employment after the enactment of the sales tax exemption (taking into account employment trends):
 - Electronic and Electrical Equipment, Industrial Machinery and Equipment, Lumber and Wood Products, Fabricated Metal Products, and Primary Metal Industries.
 - The following regions increased their share of manufacturing employment after the enactment of the sales tax exemption (taking into account employment trends):
 - Pierce County, and the Pacific and East Central Regions of the state.
- The differences in manufacturing employment by industry and region are small and new data may change these preliminary results.

Diversification

Washington Manufacturing Employment as a share of Total Employment

- Washington manufacturing employment has fallen from 21% of total nonfarm employment in fiscal year 1974 to 14% in fiscal year 1998.
- National manufacturing employment as fallen from a 26% share to a 15% share in the same period.

Washington v. Selected States Total Manufacturing Employment



Diversification By Industry

Share of Employment by Industry Comparing late 1980's to late 1990's

- When comparing the percent share of manufacturing employment for the 1986-1990 period with the 1996-1998 period, Transportation Equipment's share fell about 4%.
- Lumber and Wood Products, Paper & Allied Products, and Primary Metals also declined.
- Food and Kindred Products and Electronic & Electrical Equipment increased their shares.

Percent Share of Manufacturing Employment by Industry			
	Average Share for 1986 - 1990	Average Share for 1996 - 1998	Gain or Loss
SIC 37 Transportation Equipment	34.7%	30.8%	-3.9%
SIC 20 Food & Kindred Products	10.3%	11.8%	1.5%
SIC 24 Lumber & Wood Products	12.4%	9.8%	-2.6%
SIC 35 Industrial Machinery & Equipment	5.5%	7.0%	1.5%
SIC 27 Printing & Publishing	6.2%	6.7%	0.5%
SIC 36 Electronic & Electrical Equipment	3.8%	4.5%	0.7%
SIC 26 Paper & Allied Products	5.3%	4.8%	-0.6%
SIC 38 Instruments & Related Products	3.8%	3.9%	0.1%
SIC 34 Fabricated Metal Products	3.3%	3.8%	0.6%
SIC 33 Primary Metal Industries	3.8%	3.3%	-0.5%
SIC 32 Stone, Clay & Glass Products	2.1%	2.6%	0.5%
SIC 30 Rubber & Misc. Plastic Products	1.7%	2.5%	0.8%
Other Manufacturing Industries	7.1%	8.3%	1.2%

Diversification By Industry

Comparing Expected Share by Industry with Actual Share

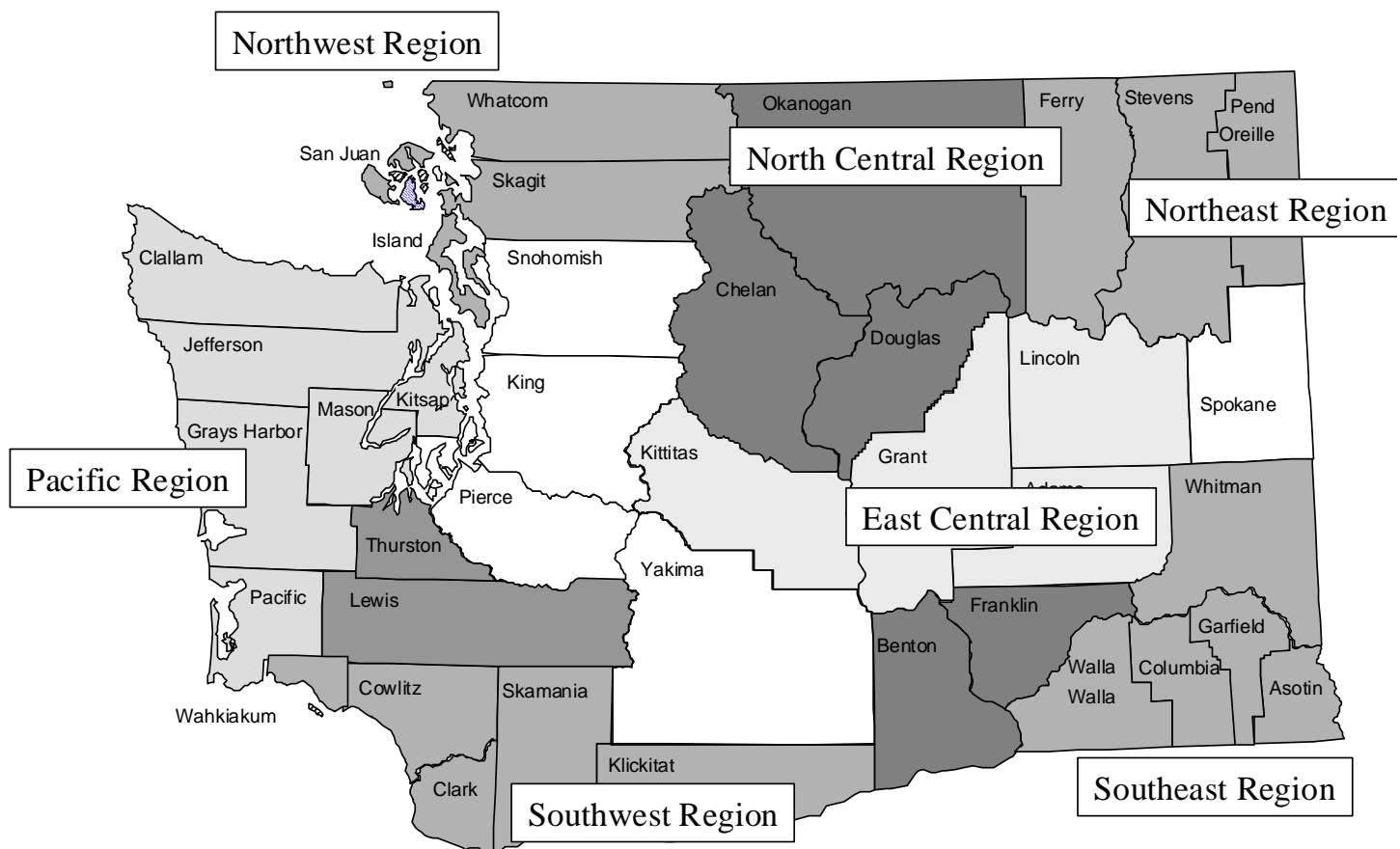
- Did the trend in share of employment by industry change after the enactment of the manufacturing tax exemption?
- When the percent share of manufacturing employment expected for 1996-1998 (based on the trend from 1986-1995) is compared to the actual share of 1996-1998:
 - Transportation Equipment, Food and Kindred Product, Printing and Publishing, Paper and Allied Products, have a reduced share, and
 - Electronic and Electrical Equipment, Industrial Machinery and Equipment, Lumber and Wood Products, Fabricated Metal Products, and Primary Metal Industries have an increased share.

Percent Share of Manufacturing Employment by Industry			
	Expected Share for 1996 - 1998 *	Actual Share for 1996 - 1998	Gain or Loss
SIC 37 Transportation Equipment	33.8%	30.8%	-3.0%
SIC 20 Food & Kindred Products	12.1%	11.8%	-0.2%
SIC 24 Lumber & Wood Products	9.3%	9.8%	0.5%
SIC 35 Industrial Machinery & Equipment	6.0%	7.0%	1.0%
SIC 27 Printing & Publishing	6.9%	6.7%	-0.2%
SIC 36 Electronic & Electrical Equipment	3.0%	4.5%	1.5%
SIC 26 Paper & Allied Products	4.9%	4.8%	-0.2%
SIC 38 Instruments & Related Products	4.1%	3.9%	-0.1%
SIC 34 Fabricated Metal Products	3.5%	3.8%	0.3%
SIC 33 Primary Metal Industries	3.0%	3.3%	0.3%
SIC 32 Stone, Clay & Glass Products	2.6%	2.6%	0.0%
SIC 30 Rubber & Misc. Plastic Products	2.6%	2.5%	-0.1%
Other Manufacturing Industries	8.2%	8.3%	0.2%
* Based on the trend from 1986 to 1995			

Diversification by Region

Diversification of the State's Economy by Region

- For the purposes of regional analysis the manufacturing employment data for the period from fiscal year 1986 through fiscal year 1998 was organized into 14 regions.



Diversification by Region

Share of Employment by Region Comparing late 1980's to late 1990's

- When comparing the percent share of manufacturing employment for the 1986-1990 period with the 1996-1998 period King County fell from a 47.3% share to a 41.7% share of total manufacturing employment.
- This is explained by the movement of employment in Aircraft and Parts (SIC 372) from King County to Snohomish County.

Percent Share of Manufacturing Employment by Region			
	Average Share for 1986 - 1990	Average Share for 1996 - 1998	Gain or Loss
Southeast Region	1.6%	1.5%	-0.1%
East Central Region	1.3%	1.8%	0.5%
Spokane County	5.7%	6.3%	0.6%
Northeast Region	0.8%	0.7%	-0.1%
North Central Region	1.3%	1.1%	-0.2%
Benton and Franklin Counties	1.6%	1.7%	0.1%
Yakima County	2.7%	3.0%	0.3%
Pacific Region	4.5%	3.6%	-0.9%
Southwest Region	8.6%	8.9%	0.3%
Lewis and Thurston Counties	2.3%	2.4%	0.1%
Pierce County	6.5%	6.9%	0.4%
King County	47.3%	41.7%	-5.6%
Snohomish County	12.1%	16.2%	4.1%
Northwest Region	3.7%	4.3%	0.6%

Diversification by Region

Share of Employment by Region Comparing late 1980's to late 1990's

- When Aircraft and Parts (SIC 372) employment is removed from the data the change in share for other manufacturing employment can be seen.
- King County and the East Central Region have the biggest gains.
- Pierce County and the Pacific and North Central Region have the biggest losses.

Percent Share of Manufacturing Employment by Region			
With Aircraft and Parts (SIC 372) Employment Removed			
	Average Share for 1986 - 1990	Average Share for 1996 - 1998	Gain or Loss
Southeast Region	2.2%	2.0%	-0.2%
East Central Region	1.8%	2.5%	0.7%
Spokane County	8.1%	8.3%	0.2%
Northeast Region	1.2%	1.0%	-0.2%
North Central Region	1.8%	1.5%	-0.3%
Benton and Franklin Counties	2.3%	2.3%	0.0%
Yakima County	3.8%	4.0%	0.2%
Pacific Region	6.2%	4.8%	-1.4%
Southwest Region	12.4%	12.2%	-0.2%
Lewis and Thurston Counties	3.3%	3.3%	0.0%
Pierce County	9.3%	8.8%	-0.5%
King County	33.6%	34.8%	1.2%
Snohomish County	8.6%	8.8%	0.2%
Northwest Region	5.4%	5.7%	0.3%

Diversification by Region

Comparing Expected Share by Region with Actual Share

- Did the trend in share of manufacturing employment by region change after the manufacturing sales tax exemption was enacted?
- When the percent share of manufacturing employment expected for 1996-1998 (based on the trend from 1986-1995) is compared to the actual share for 1996-1998:
 - Yakima, Lewis and Thurston Counties, King, and Snohomish Counties lose ground, and
 - Pierce County, and the Pacific and East Central Regions gain.

Percent Share of Manufacturing Employment by Region			
With Aircraft and Parts (SIC 372) Employment Removed			
	Expected Share for 1996 - 1998 *	Actual Share for 1996 - 1998	Gain or Loss
Southeast Region	2.1%	2.0%	-0.1%
East Central Region	2.3%	2.5%	0.2%
Spokane County	8.3%	8.3%	0.0%
Northeast Region	1.1%	1.0%	-0.1%
North Central Region	1.4%	1.5%	0.1%
Benton and Franklin Counties	2.5%	2.3%	-0.2%
Yakima County	4.4%	4.0%	-0.4%
Pacific Region	4.5%	4.8%	0.3%
Southwest Region	12.2%	12.2%	0.0%
Lewis and Thurston Counties	3.6%	3.3%	-0.3%
Pierce County	7.6%	8.8%	1.2%
King County	35.1%	34.8%	-0.3%
Snohomish County	9.1%	8.8%	-0.3%
Northwest Region	5.8%	5.7%	-0.1%
* Based on the trend from 1986 to 1995			